JANUARY 30, 1943

Railway Age

Founded in 1856

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14 new locomotives all piped with . . . BYERS WROUGHT IRON

During 1942, the railroads again covered themselves with glory by handling a 35% increase in ton-mile traffic . . . and doing it with little new equipment.

Doing so much with so little was possible because equipment was built to last. When the big need came, rolling stock had extra "factor of service" to meet it.

Current specifications reflect the same emphasis on durability and dependability. The illustration shows one of 14 new 2-8-4's, built by Baldwin for Louisville & Nashville Railroad Company. All piping is Byers Wrought Iron.

Byers Wrought Iron for locomotive piping makes a three-way saving. It helps to reduce frequency of repairs, it reduces the materials needed for replacement, and it generally brings a substantial saving in actual per-year cost. A study made not long ago showed that the installed cost of Byers Wrought Iron piping was little higher than that of ordinary materials, while its service-life—based on previous experience—was proportionately much greater.

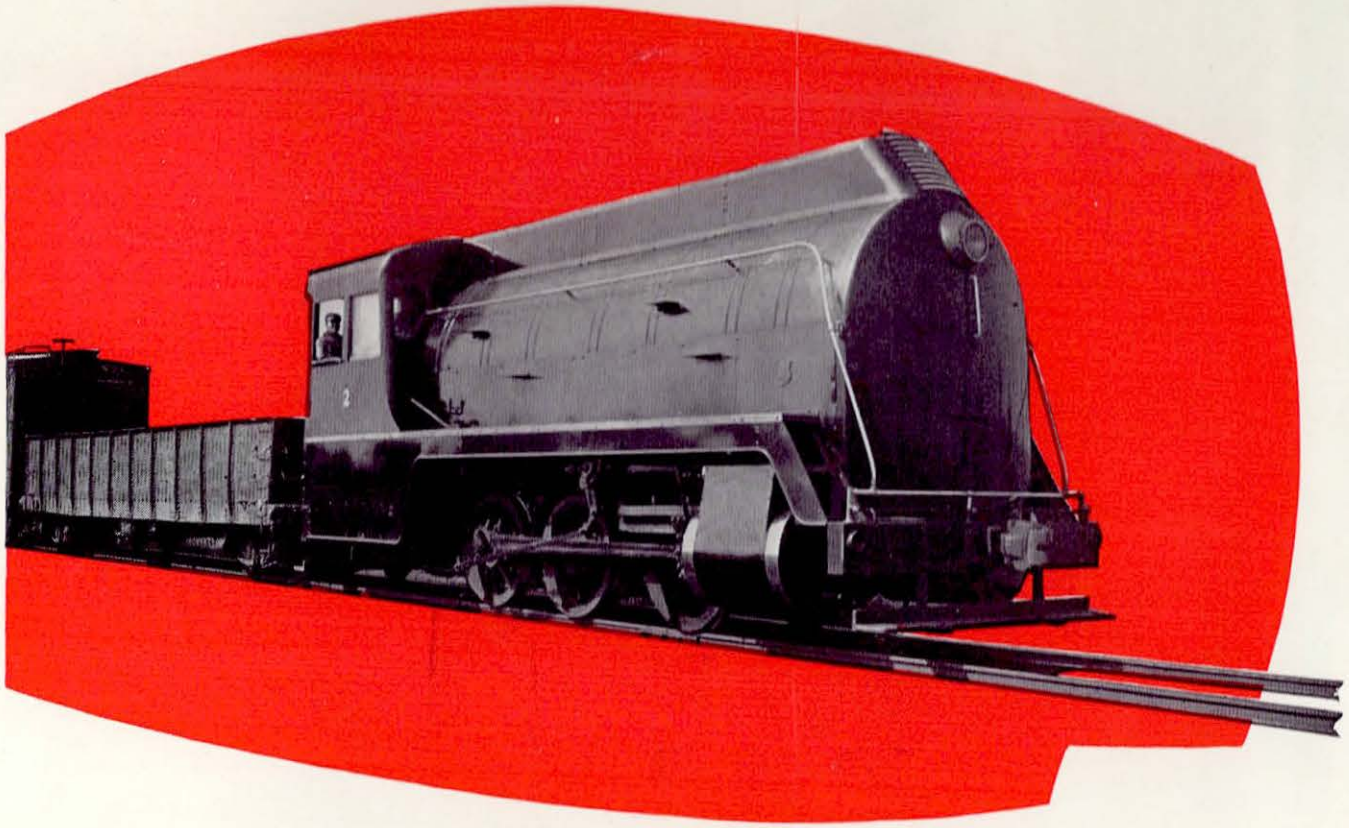
Byers Wrought Iron has made a real record in fighting the two worst enemies of locomotive piping: corrosion and fatigue. The short-radius bends that are often necessary do not harmfully affect its structure or its service qualities. It is helping to solve many current material problems—for instance, it is being successfully used in place of highly ductile materials in lubricating lines.

If you have any new equipment in prospect, and would like to check the experience of other engineers with wrought iron, our Engineering Service Department will send you records from our files.

A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

BYERS
GENUINE WROUGHT IRON
TUBULAR AND HOT ROLLED PRODUCTS
ELECTRIC FURNACE ALLOY STEELS OPEN HEARTH ALLOY STEELS
CARBON STEEL TUBULAR PRODUCTS

CORROSION COSTS YOU MORE THAN WROUGHT IRON



New, Unskilled Labor can quickly learn to operate and service PORTER Fireless Locomotives

Porter Fireless Steam Locomotives offer an ideal solution to a serious labor problem: Because there are no complex mechanisms or controls, a relatively unskilled man can operate and service one with only a few hours' training. Porter Fireless Locomotives are so ruggedly and simply constructed there is little danger of damage by inexperienced operators.

If steam at 85 pounds pressure is available in your plant, a Porter Fireless can save you up to 50% in haulage and switching costs. Produced in direct or geared-drive types, in sizes from 10 to 100 tons. Write for complete information.

H. K. PORTER COMPANY, Inc. Pittsburgh, Pennsylvania

ESTABLISHED 1866

ONLY PORTER BUILDS A COMPLETE LINE OF LOCOMOTIVES FOR INDUSTRY

ARMY NAVY

PORTER better built Locomotives

DEPENDABLE DELIVERY

Since no critical materials such as diesel engines, electric motors, etc., are used, you can count on delivery of a Porter Fireless at the time promised.

LOW INITIAL COST

Because of the simplicity of its design and operating mechanisms, the Porter Fireless can be produced at a low cost. There is nothing to make the initial cost high. A Porter Fireless costs you less than most other types of comparable weight and power.

LOW OPERATING AND MAINTENANCE COSTS

A Porter Fireless uses low-cost steam produced anywhere in your plant. Charging can be done once or twice a day during idle periods. No night or week-end attention is required. Fewer working parts mean fewer repairs. There is no boiler or firebox, diesel engine or electric motor—the reservoir never needs replacement.

LONG LIFE

The first Porter Fireless was placed in service 29 years ago and is still in service.

SAFETY

There is no fire hazard with a Fireless. It is explosion proof since excessive pressures are not possible.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 114, No. 5.

SAFE WAYS IN WAR PRODUCTION

NEW WORKER—Every new employee in a Bethlehem Plant wears this button. It helps to fix his attention on safety. It signals to more experienced employees that he is new to the plant, and they keep an eye on him, and do not hesitate to offer friendly guidance in case he forgets instructions and unknowingly breaks any safety regulation.

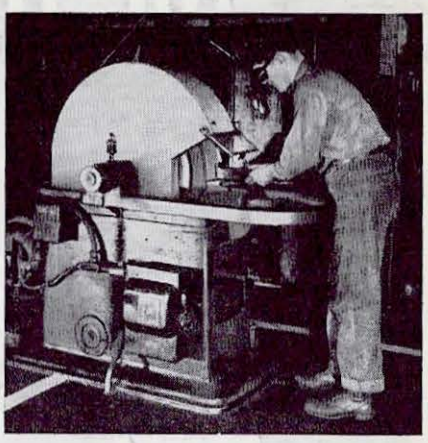
Industrial accidents, bad enough because of the human distress they cause, are also a grievous drag on production. Every day that injury lays up a worker means lowered output of the materials our armed forces are asking for.

Safety engineers know they must be more than ever on guard as pressure for production intensifies and men work against time. When war came, Bethlehem Steel Company expanded its accident-prevention program to meet the new conditions. Special efforts were addressed to the new employee to make him safety-conscious from the moment he walked into the plant. And by posters, group meetings and individual instruction, the safe way of doing his job was ground into the subconscious of new Bethlehem employee and veteran alike.

Significant are the results of a current study, showing that of all disabling accidents to Bethlehem employees less than one-third occur in the course of their work. Even with employment rolls upped by the tens of thousands and plant operations at top speed to meet the demands of the war program, the Bethlehem employee is safest, best protected against injury, during the hours he spends on the job.

AUTOMATIC HAND GUARD—This man is operating a trimming press. If he should absent-mindedly let his hands move too near the danger zone, the two cables will automatically whisk them back to safety, before the ram of the press descends.

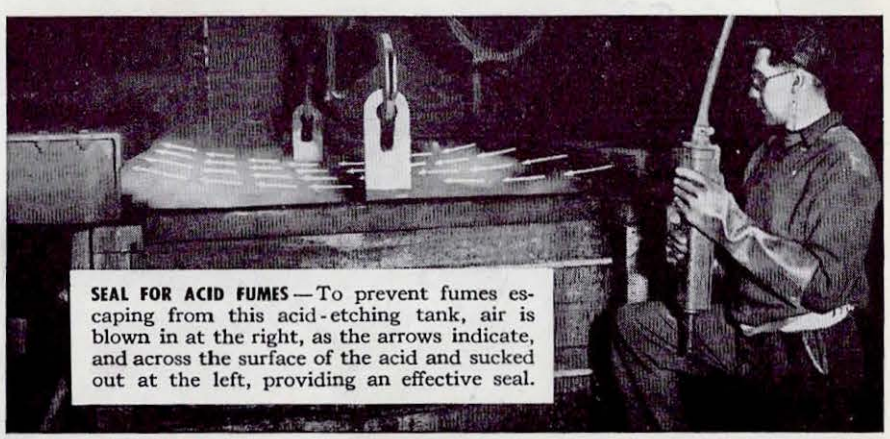
100% HEAT-INSULATED—Asbestos-covered hood, chrome-leather full-length apron, chrome-leather gloves, chrome-leather full-length sleeves and asbestos guard on torch handle give this worker complete protection against heat and flying sparks.



EYES DOUBLY GUARDED—Even though this grinder is equipped with a heavy glass shield, the eyes of the man who is operating it are given further protection against sparks or flying bits of abrasive by the cup goggles that he is wearing.

BETHLEHEM STEEL

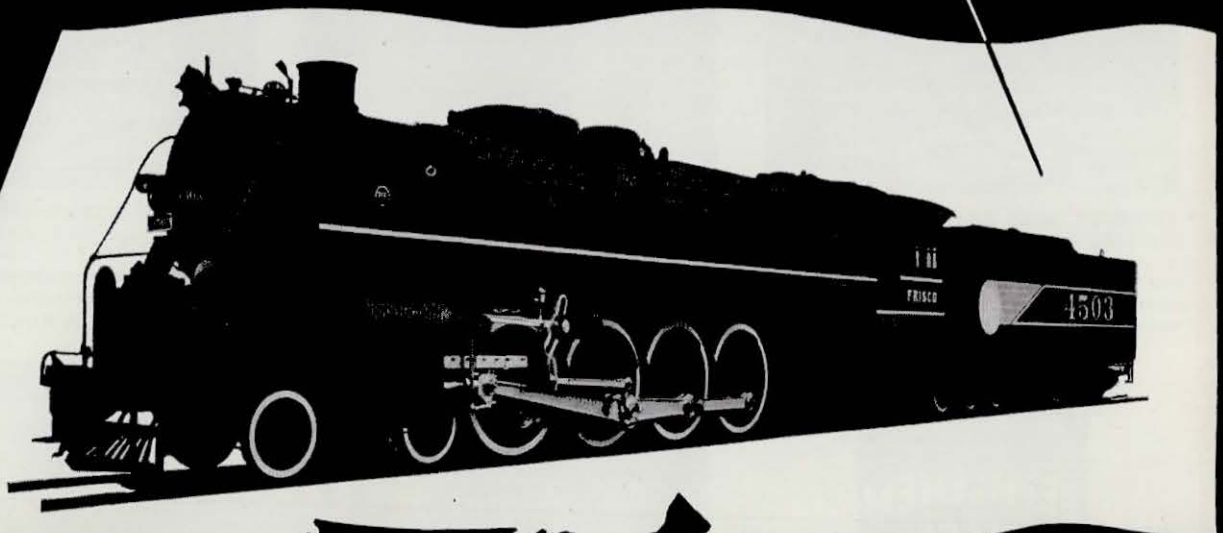
Bethlehem Steel Company is actively supporting the National Safety Council in its campaign against accidents in war production, through the War Production Fund to Conserve Manpower.

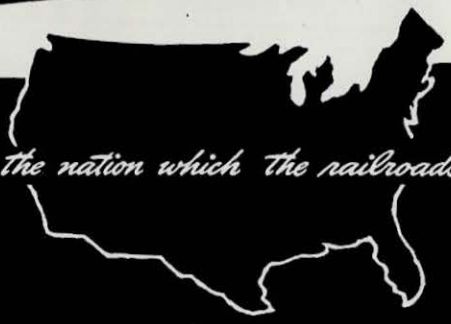


SEAL FOR ACID FUMES—To prevent fumes escaping from this acid-etching tank, air is blown in at the right, as the arrows indicate, and across the surface of the acid and sucked out at the left, providing an effective seal.

Baldwin partners work for the Frisco

Modern Steam...





Baldwin serves the nation which the railroads helped to build

Diesel-Electric Locomotives

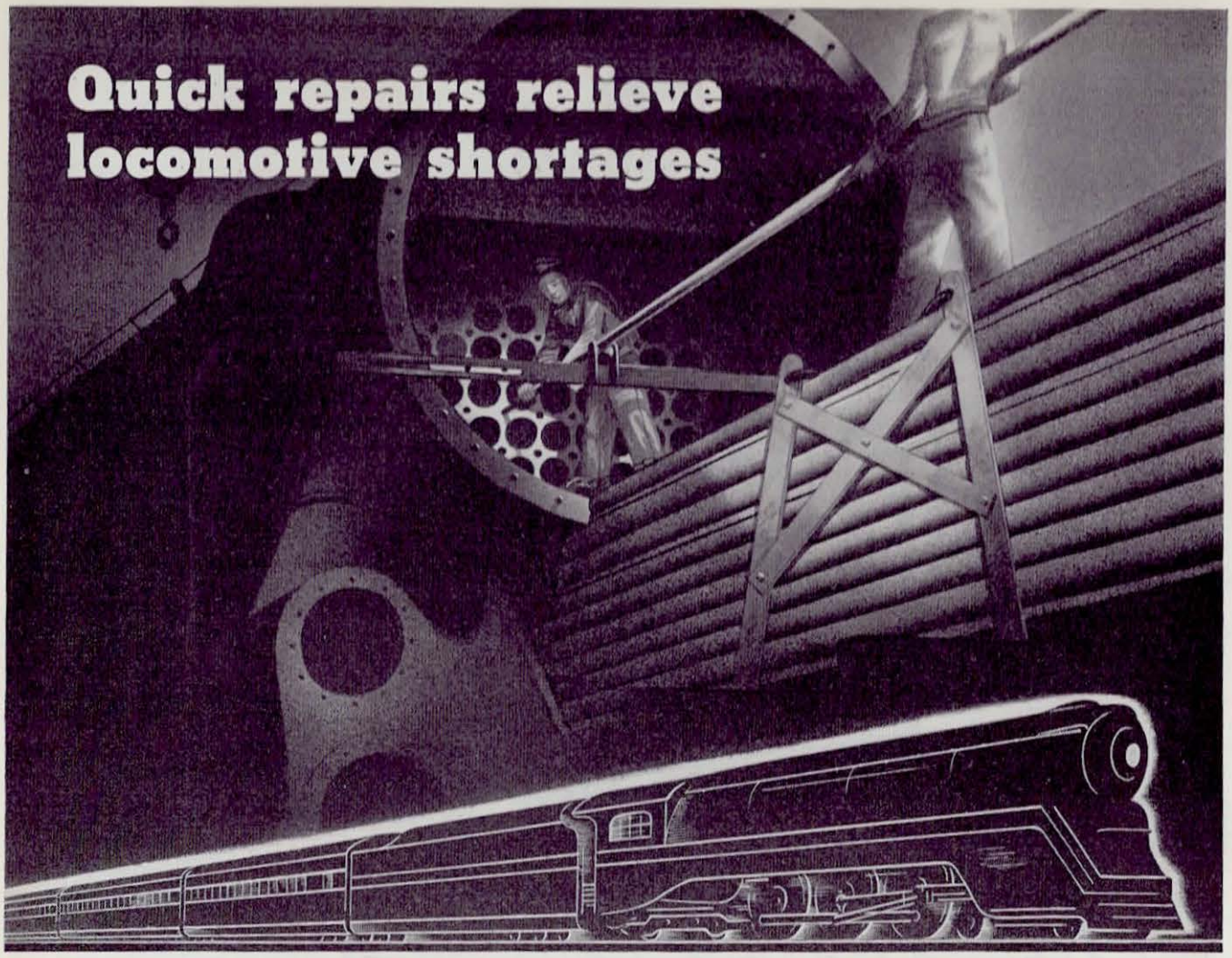
These modern Baldwin Locomotives are handling their share on the St. Louis-San Francisco Railway . . . they're doing their bit by helping the Frisco serve the great industries and the military bases that are situated on or adjacent to its lines in the Middle West, Southwest and the Southeast.

In addition to hundreds of Baldwin Steam Locomotives, the Frisco uses six Baldwin 1000-hp Diesel-Electrics, powered by 4-cycle De La Vergne Engines and equipped with Westinghouse Electrical Transmission.

Modern Baldwin Steam and Diesel-Electric Locomotives are not only helping America's railroads perform the greatest task in history, but they are serving in the Army, wherever troops and materiel must be moved by rail. The experience Baldwin has gained in building more than 64,000 locomotives is of invaluable assistance today, helping this 111-year locomotive builder manufacture Army tanks, gun mounts, gun tubes, and other ordnance materiel for our Armed forces.

THE BALDWIN GROUP

THE
BALDWIN
LOCOMOTIVE WORKS
Philadelphia



Information supplied by "Railway Age"

Speeding locomotive repairs is one way of preventing shortages of motive power. One of the necessary routine repairs is the renewing of boiler tubes and flues that have become burned and corroded from hard usage.

Several railroads have found that safe ends can be fastened to tubes much faster by rearranging shop facilities and installing proper welding equipment.

The burned tube ends are sawed off and the scale removed from the tubes by sand blasting. After inspection those too badly pitted are discarded.

The good tubes are carried by conveyor to an electric butt welding machine, where the safe ends are welded on. The tube is then heated in a furnace, and swaged to proper diameter to fit the hole in the flue sheet.

It then goes by conveyor to a cold saw that cuts off the unwelded end to reduce the tube to proper firebox length. Tubes are then annealed to relieve stresses and delivered to storage racks for future use.

CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.
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Climax Mo-ly-b-den-um Company
500 Fifth Avenue · New York City

MOLY

THE BATTLING BIRDS OF PIGEON CREEK

When you roam among railroaders in western Iowa, you're bound to hear how Fred Bird and his family fight flash floods that threaten to tear up the tracks.

The battling Birds have done more of this life saving than most any other family. But you wouldn't pick Fred to be much of a fighter.

For twenty-two years he's been a section foreman at a little way station called Crescent, where Pigeon Creek comes down from the hills.

Fred walks slightly stooped, peering through thick glasses. He's only five feet, five inches from the cross ties to his topmost grey hairs. Never weighs more than 155 pounds but lifts like a stevedore.

Fred seldom speaks to strangers. But he and I used to hot-foot over the roadbed's gravel, cinders, and rock ballast—plus 2,900 crossties to the mile.

"Unless we pumped a handcar," Fred reminded me the other day. "And the railroads didn't use weed mowers, weed burners, track diskers, or mechanical track layers when you and I began walking track thirty-some years ago."

"Now, most of the trackwalkers are section patrolmen or division inspectors," I grunted. "Buzzing along the rails, on gas-driven doodlebugs, giving the expert eye to anglebars, tie plates, anti-creepers, bolts, and spikes."

"I do it myself, but it hasn't softened me," Fred declared. "It hasn't softened my oldest boy, George, who's a switchman at Council Bluffs. Or my second son, Fred, Jr., who's working in a Nebraska defense plant. I brought them up fighting floods."

The main line of Fred's railroad runs between high river level and higher clay bluffs. But early spring rains or midsummer cloudbursts sometimes send mud-yellow torrents against Pigeon Creek bridge, a few yards from the Birds' modest roadside home.

One night—when bridge and track level were much lower than at present—the Creek dikes gave way. For three miles both sides of the right-of-way went under water—and crack trains were due carrying hundreds of passengers.

For twenty-four hours Fred's section crew dumped ballast on the weakened, wave-lapped roadbed while he and Mrs. Bird and their eleven children stood on the badly pressed bridge and fought heavy driftwood with pike poles.

If the bridge had gone out some Birds might have drowned. But the bridge luckily held, and the trains kept rolling.

I mentioned this incident while Fred and I were gabbing.

"Shucks!" said he, "Us Birds used to do that four or five times a year. Fighting flash floods is just part of my job, along with keeping my section at top condition."

—The Trackwalker

AMERICAN LOCOMOTIVE • GENERAL ELECTRIC

113-8-9500

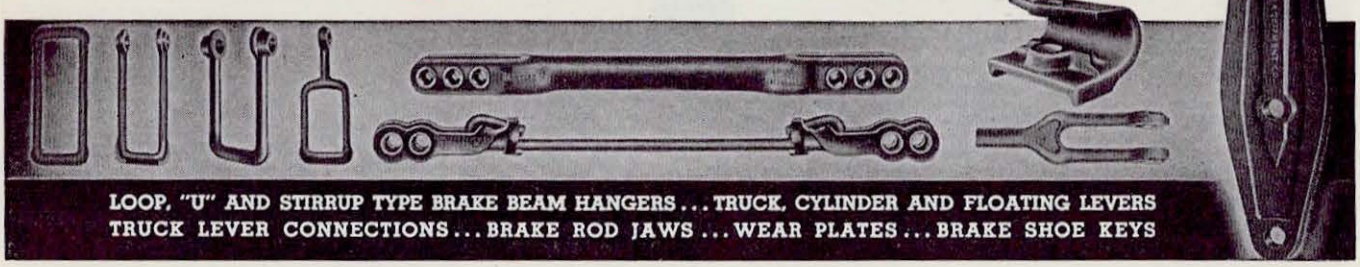
Less Weight
Longer Life

THIS LEVER IS ONLY ONE OF SIX—

This is only one of the Schaefer Forged Steel Foundation Brake Gear Appliances that are helping to speed thousands of freight cars carrying vital war materials — lengthening the time between car shoppings for repair and replacement of brake gear parts — conserving man hours on overworked repair tracks.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.



LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS ... TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS ... BRAKE ROD JAWS ... WEAR PLATES ... BRAKE SHOE KEYS

through Station Platforms

Oxy-Acetylene Pressure-Welded Rail Does Away With Difficult Maintenance Problems

• Oxy-acetylene pressure-welded rails are particularly advantageous in station platforms because batter and joint maintenance are completely eliminated by this efficient process, developed by Oxweld. Station tracks are usually busy and therefore difficult to get to for maintenance, and pressure-welded rails—once they are laid—can be covered, if desired, and forgotten as far as maintenance is concerned. In addition the continuous smooth-riding rail surface reduces noise and vibration.

The advantages of pressure-welded rail have caused it to be used increasingly not only through station platforms, but in tunnels, on bridges, through road crossings, on over-head structures, and in open track.

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation

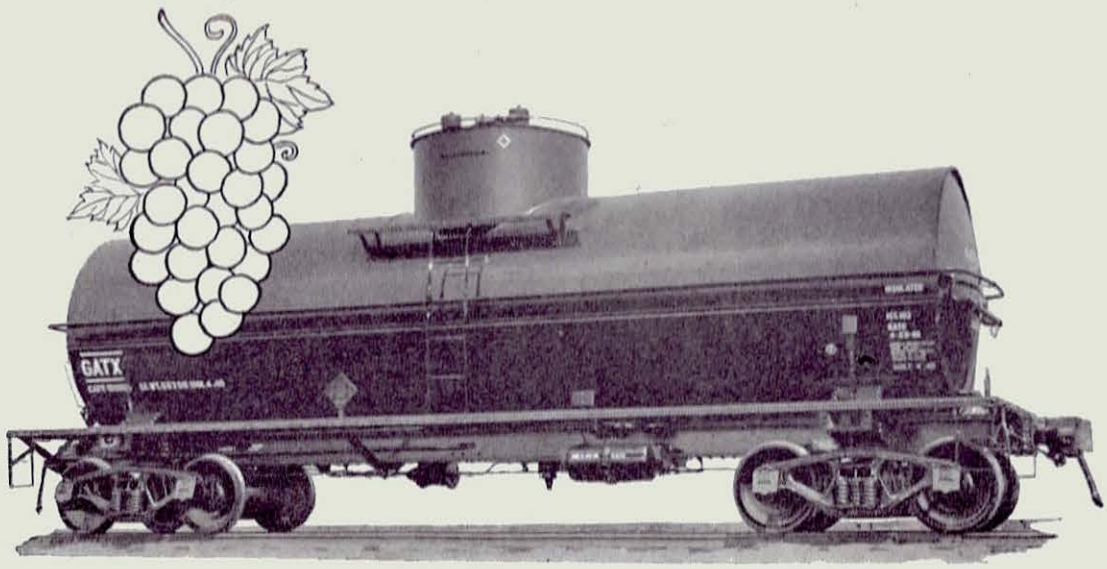
UCC

Carbide and Carbon Building — Chicago and New York

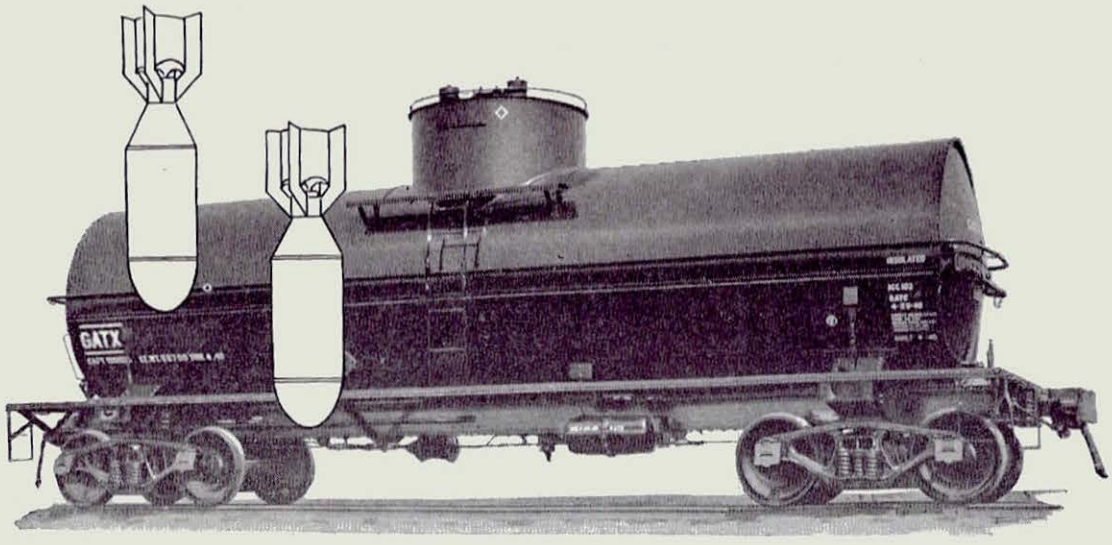
OXWELD RAILROAD SERVICE

The word "Oxweld" is a registered trade-mark.

The car that carried fine old wines . . .



now carries alcohol for ammunition



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A SYMBOL OF INTEGRITY FOR OVER 40 YEARS

GENERAL AMERICAN TRANSPORTATION CORPORATION

Chicago

Builders and Suppliers of Railroad Freight Cars

MORE MODERN POWER FOR AMERICA AT WAR!

COMMONWEALTH CAST STEEL PRODUCTS

ON UNION PACIFIC 4-6-6-4's

- One-Piece Deflecting Pilot
- Locomotive Bed — Front Unit
- Locomotive Bed — Rear Unit
- Boxpok Driving Wheel Centers
- 4-Wheel Trailer Truck
- 4-Wheel Tender Guiding Truck
- Tender Bed

COMMONWEALTH PRODUCTS ASSURE MAXIMUM LOCOMOTIVE AVAILABILITY — LESS MAINTENANCE

GENERAL STEEL CASTINGS

Eddystone, Pa. • • • Granite City, ILL.

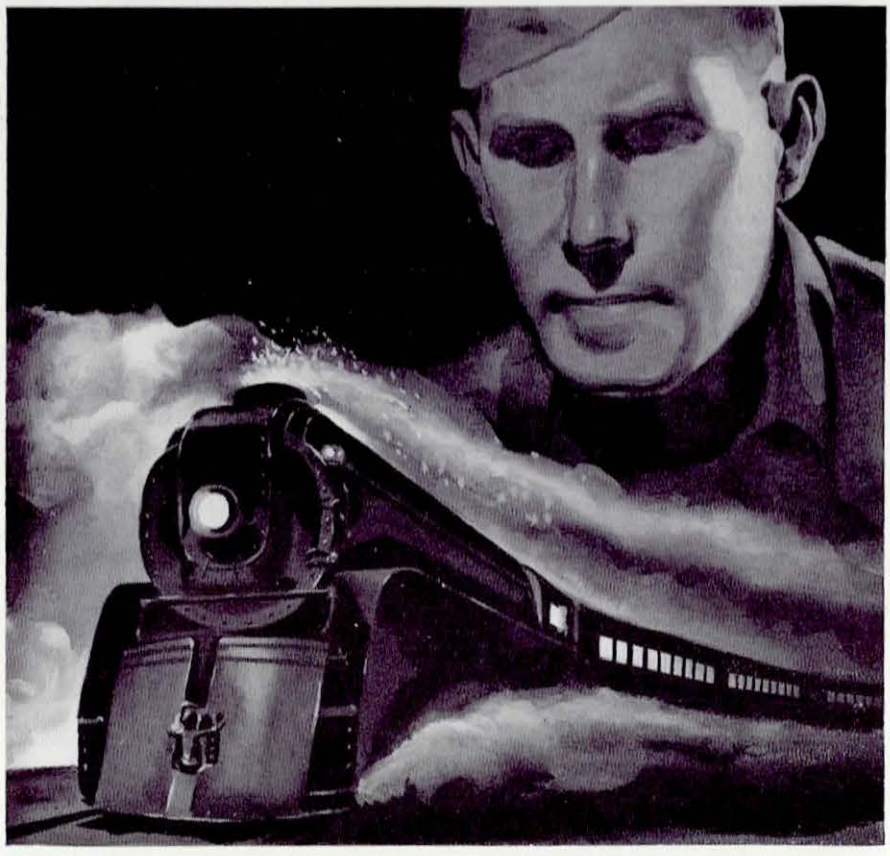
Temperature Changes. It's at this season of the year that many battery troubles develop—and this is just a timely reminder that alkaline batteries are not damaged by freezing. Even if you lose a belt in cold weather and the battery becomes completely discharged, freezing will not damage it.

28% Fewer Men. This is a bigger war than the last one—yet there are 500,000 less railway employees to do the job. This is a great tribute to railroad organization—and incidentally, a fine example of how alkaline batteries are helping. Alkaline batteries seldom fail during runs and they are simple and easy to maintain.

Yard Charging Problems. Some yards are handling double and triple the passenger cars for which they were equipped. It's in and out again—quick—with inadequate time and insufficient facilities for battery charging. What a good thing the generator settings can be "a little on the high side" when the batteries are alkaline.

Edison Storage Battery Division
Thomas A. Edison, Inc.
WEST ORANGE, N. J.

POWER FOR LIGHTING

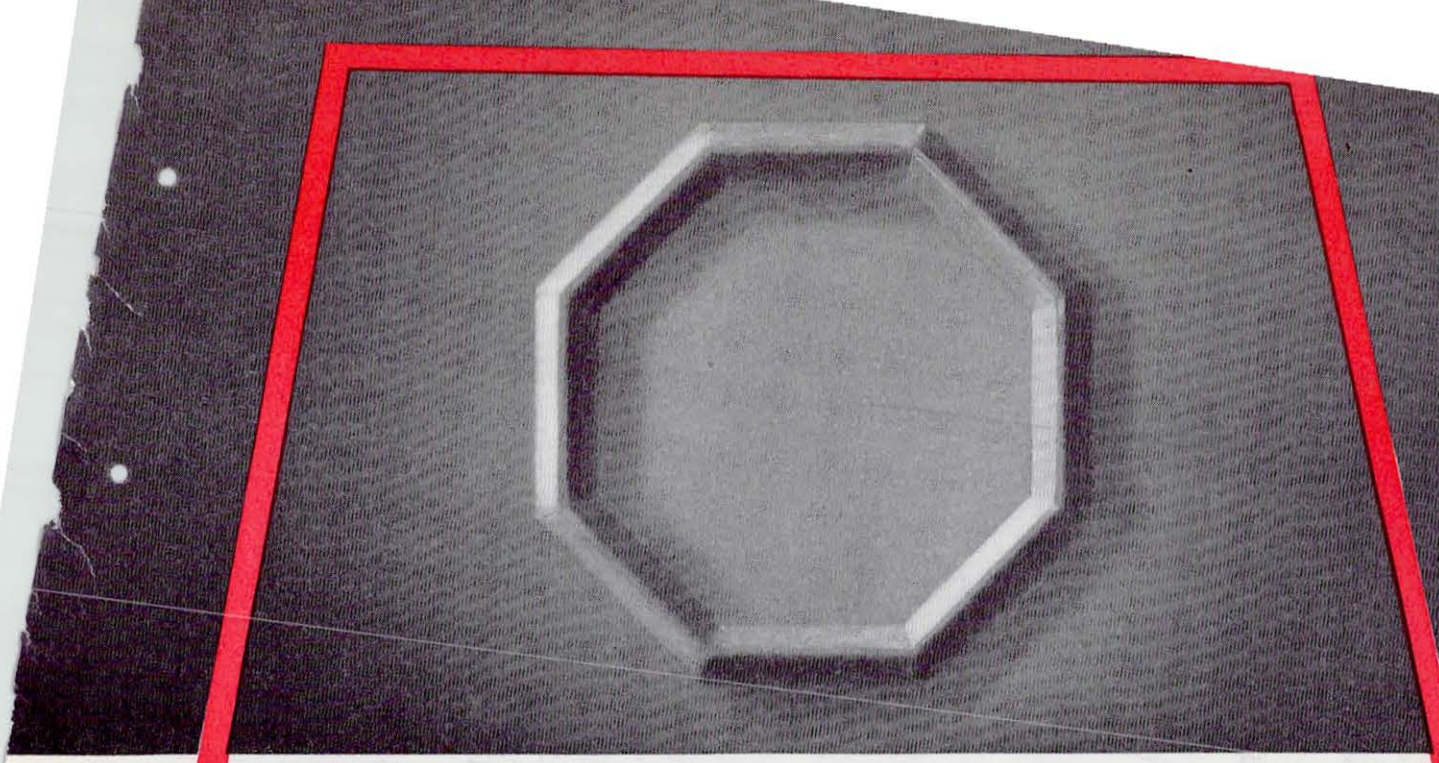


It's the cars available for today's peak traffic demands that matter! And a big help in keeping a maximum number of railway passenger cars in service, is freedom from battery trouble. Alkaline batteries are contributing greatly to the railroads' excellent performance because *they perform so faithfully themselves.*

Thomas A. Edison invented the alkaline battery. No more durable, reliable portable power source is known.

RAILROADS NEED THE DEPENDABILITY OF

Edison Alkaline BATTERIES



The "seal" we are proud to put on every casting

ON every steel casting produced by American Steel Foundries there is cast a raised Octagon trade mark . . . the symbol of an organization that for decades has been a producer of good steel castings.

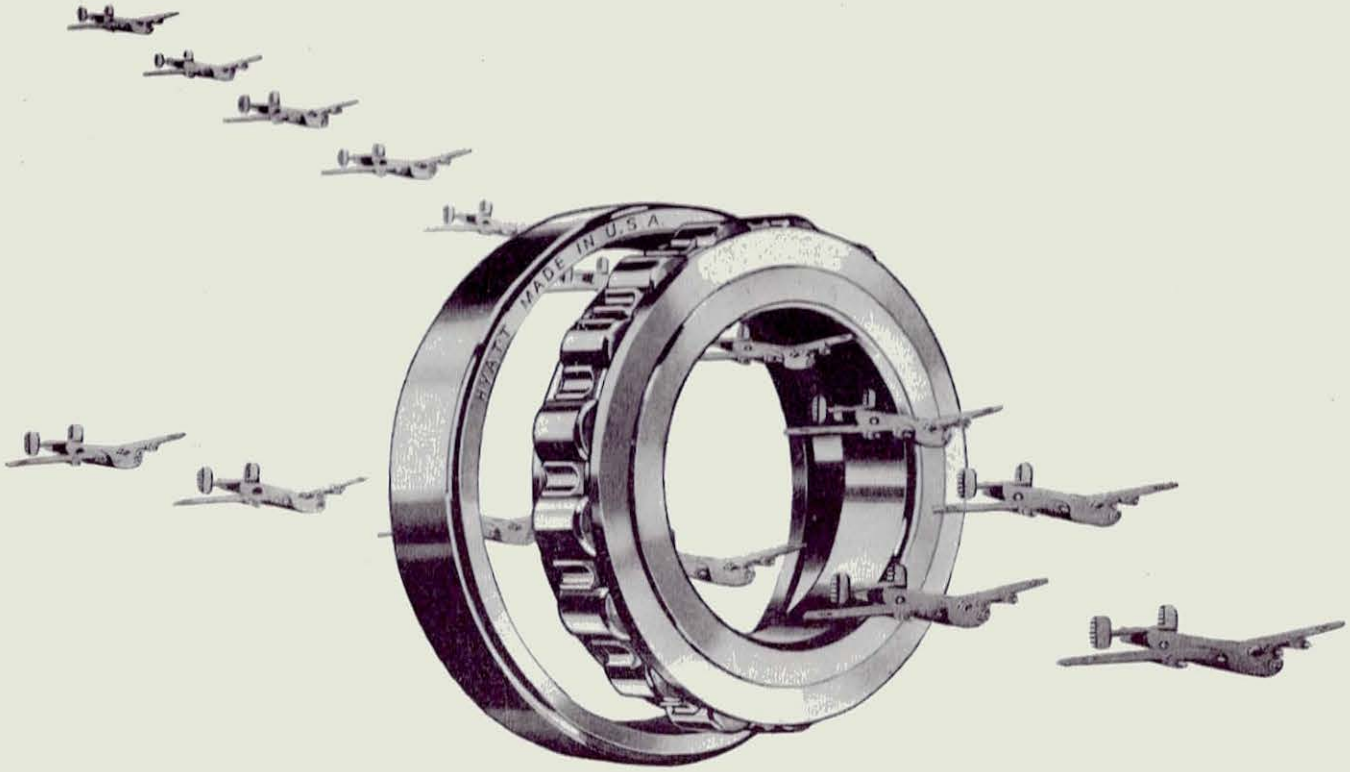
That Octagon denotes the results of years of research work . . . years of progress in foundry practice . . . years of meeting exacting requirements for the Army and the Navy and in the industrial and railroad fields.

It is the symbol of the largest producer of steel castings in America.

Within each octagon is the initial letter of the plant that produces the casting

G — RANITE CITY
E — EAST ST. LOUIS
I — INDIANA HARBOR
V — VERONA
A — ALLIANCE
H — HAMMOND
C — CAST ARMOR PLANT

MERICAN STEEL FOUNDRIES



High Precision

Aviation is but one of the many important applications where Hyatt Roller Bearings are battling the Axis.

Their proved performance under fire in aircraft as well as in tanks, guns, ships and trucks . . . their wartime round-the-clock operation in factories, on farms and railways . . . all reflect the many important advantages of their advanced design and high precision manufacture.

This is the kind of bearing precision and performance which you have learned to associate with Hyatt Railroad Journal Boxes over the many years we've served, and will continue to serve in the brighter years ahead.

Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

HYATT ROLLER BEARINGS

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

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PRINTED IN U. S. A.

COURTESY ASSOCIATION OF AMERICAN RAILROADS

Speed car deliveries

with "Union" Yard Communication!

FEATURES OF THE "UNION" YARD COMMUNICATION SYSTEM

1. Instructions are given directly in speech, and acknowledgment by signal or voice is immediate.
2. Communication is private.
3. Communication may be one-way or two-way, whether locomotives are in motion or standing.
4. One-way equipment is portable and may be quickly transferred from one locomotive to another.
5. One-way equipment can be converted to two-way by the addition of a few parts.
6. The system is not subject to government radio regulation and no operating license is required.

WITH "Union" Yard Communication, a yardmaster may operate his yard or terminal area with maximum efficiency. He is provided with a modern means of communication between the yard office and the equipped locomotives under his jurisdiction. He may communicate directly and instantly with each engineman, regardless of physical obstructions or adverse weather conditions.

The "Union" Yard Communication system is in service or being installed in *fourteen* yards on six of the important railroads in the United States.

3003

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

NEW YORK · CHICAGO · ST. LOUIS · SAN FRANCISCO

The Week at a Glance

DIVERSION ORDERS COMING?: Congestion is developing on some lines and there is talk of issuing mandatory government orders, diverting traffic to alternate routes. An editorial herein views this possibility with misgivings. So far the federal authorities have set the *goals* for the railroads, but *how* to meet these goals has been left to local ingenuity. When the government starts to telling *how* the job should be done, is it not jeopardizing this local initiative—and with no certainty that diversion orders will not simply shift the congestion, rather than eliminate it? Relaxation of union rules and getting requisite equipment and facilities where they are needed would really relieve congestion. If the doctor isn't disposed to apply the standard remedy, maybe nothing at all would be better than untested medication.

●

PUTTING US TO SLEEP?: That is the effect on the railroads induced by recent reports on the slight chances air transport has of capturing freight traffic—in the opinion of a railway officer, as well-informed as any on air transportation. Even if the plane has so few *economic* advantages as a freight carrier, as its most modest claimants insist, what about aviation's *political* strength? The barge on an improved inland waterway is also fantastically uneconomic, but that hasn't kept it from growing steadily to the railroads' detriment.

●

POLITICAL ZEALOTRY: Time was, when a new invention came along, that business men were the ones looked to, to exploit its advantages—and wholly among the consuming public. But times and customs change. Now, developing industries —in transportation anyhow—either seek to take the government into paying partnership, or else the government eagerly comes in on its own initiative. Please note what's going on in Congress with regard to aviation, as reported in the news pages herein. Probably nobody actually in the aviation business is more zealous or partisan for its advancement than some elected representatives of the people. What the private enthusiast does to advance his business among customers is desirable economic competition —but a legislator's zeal may lead to subsidies and unequal legislation, inimical both to economy and to free enterprise.

●

MORE "SOCIAL SECURITY": Few government bodies can be found which so abound in philanthropic generosity with other people's money as the Railroad Retirement Board. It has a modest little plan to increase the *railroads' share* of payroll taxes to a mere 11 per cent of payrolls (employees paying an additional 6¼ per cent), the proceeds to be expended in widely liberalized "social security." The first century and a half of U. S. history was an era of accumulation, when human ingenuity was concentrated on increasing national wealth and income. We now appear to have entered an epoch with a goal at the opposite pole—attention being concentrated preponderantly on spending, with as much ingenuity now being displayed in the proliferation of schemes for dissipating the accumulation of the past, as heretofore was manifest in magnifying the national wealth and income.

●

WHAT EMPLOYEES WANT: The magazine "Fortune" has taken a poll among wage-earners and finds them, predominantly, opposed to government ownership of industry or change in our form of government. On the other hand, three-quarters of those polled, believe employees should have some representation in management—and pretty close to a majority favor a top limit on individual incomes. Wonder what *railroad* employees think on such questions as this—and whether they believe that fastening high wage scales and more "make-work" on the carriers now is a good way to protect post-war jobs?

●

FARMERS' VIEWS: Your reporter last week heard leaders of two of the nation's principal farm organizations castigate the Administration's plan of subsidizing agriculture in order to sustain farm earnings to encourage production, while keeping prices down. These farm leaders maintain that subsidies are quite as inflationary in effect as higher prices—and, indeed, are less desirable because they tend to conceal economic facts from the public. They also oppose subsidies, as making farmers too dependent upon politics for their incomes. What healthier sign can be seen in American social life than, finally, a group of subsidy-receivers waking up to their perverse effects? It would be encouraging if this opposition to subsidization, by the receivers thereof, should spread to transportation.

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ARMY RAILROADERS: Officers of the Military Railway Service, commissioned from civilian life, take a course of training—primarily in military fundamentals—at the Transportation Corps School at Fort Slocum, N. Y. The work of this school is described in a brief article elsewhere in these pages. Not only the Military Railway officers, but all Transportation Corps officers who are commissioned from civilian life, take this instruction, either at Fort Slocum or Camp Stoneman, Calif. Officer *candidates* are trained at another T. C. school in Mississippi. Schooling includes military traffic problems.

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LOCOMOTIVE SAFETY: Ten per cent of the steam locomotives examined by the Bureau of Locomotive Inspection were found defective in the fiscal year 1942, as compared with 9 per cent in fiscal '41 and 8 per cent in fiscal '40. Accidents occasioned by locomotive failure totaled 222 in fiscal '42, an increase of 45 per cent. Boiler accidents totaled 81 as compared to 43 in the preceding year. The locomotive safety situation, as revealed in the Locomotive Inspection Bureau's annual report, is summarized elsewhere in these pages.

INTERTERRITORIAL RATES: The Eastern and Southern roads have presented memoranda, reviewed herein, to the Board of Investigation & Research, to aid it in arriving at conclusions on the lively political controversy over interterritorial rates. The two territories oppose each other on the "destination level theory" of rate-making, the East attacking it and the South supporting it.

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PRECAST CULVERT: Because of the higher cost of alternative structures and the undesirability of using falsework in construction, the B. & L. E. turned to precasting to solve a culvert problem—its experience being narrated in an illustrated article herein.

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HOUSE COMMITTEE: The members of the new House Committee on Interstate Commerce are named in the news pages herein. The able and public-spirited Californian, Clarence Lea, remains as chairman, and other familiar names appear on the roster of a group which in the past couple of Congresses under Mr. Lea's leadership has established a reputation for itself for intelligent and devoted public service.

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PURCHASING OUTLOOK: Railway purchases may fall off, temporarily, when the war ends—but they will quickly revive, as the carriers strive to catch up on undermaintenance and to renew improvement programs, interrupted by the war. Competition by new enterprises for railway patronage will also be a factor in the revival. Such were a couple of the informed opinions revealed by purchasing officers at the New York Railroad Club meeting last week, reported herein. Authorities in this branch of railroading also believe that more effort needs to be expended to relieve the present acute shortage of ties and lumber, to increase coal production, and to master the pile of official paper work—adeptness at which is a prerequisite to getting sufficient materials under present conditions.

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TROOP MOVEMENT MOUNTS: General Gross has revealed that three times as many troops were moved by rail in the first fortnight of 1943, compared to the same season in 1942. Some 1¾ millions of troops are being moved monthly in large parties (not counting individual movement and groups less than 50). During the 12 months ended on Pearl Harbor day, 1942, troop movements exceeded 11 million—or more than for the entire period of World War I up to the armistice.

●

TRUCE WITH TRUCKERS: Judge Fletcher has suggested to the D. C. truckers that railroads and rubber-borne freighters might profitably do less "sniping" at each other, and more at their common foes—such as OPA attacks on rates and the Justice Department's move to destroy collaborative rate-making. Ted Rodgers of the Truckers' association has endorsed Mr. Fletcher's suggestion.

MEETING *Transportation* DEMANDS

AS we enter 1943, a new picture appears. The tide has begun to turn — we are now on the upgrade — and we intend to remain so.

Railway motive power will have to keep step with the ever-increasing demands of war-time traffic. Existing locomotives must be maintained at peak efficiency and new locomotives should be provided as authorized by the War Production Board. In the selection of new power, maximum performance and economy of operation and minimum use of critical materials are of major importance.

More than 145 General Motors Diesel Freight Locomotive Units, now in service on American railroads, make possible—greater hauling capacity—reduction in train miles as much as 50 percent—faster schedules—greater availability — increased carrying capacity of existing track facilities with less wear and tear on rail and bridge structures. And in the *conservation of vital materials*, one ton of materials in a GM Diesel locomotive will do the work of more than two tons of materials in a steam locomotive.

TRANSPORTATION IS VITAL TO VICTORY

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION — LA GRANGE, ILLINOIS, U. S. A.

RAILWAY AGE

Efficiency FOR VICTORY

Keep Railway Research Going

Because the research activities of individual railways, the Association of American Railways and railway supply manufacturers are little publicized, there is a tendency of the public, and even of railway men, to believe that railways are not research-minded, and that relatively little has been accomplished in the development of new or improved materials and designs for them. The great achievement of the railways during the present war period in handling an unprecedentedly increased traffic with unprecedented efficiency and economy is sufficient proof of technological progress which could not have been accomplished without a vast amount of practical and effective research.

Much more scientific research and development work should be done for the railways; but there is no point in overlooking what has already been done. Who can observe the vast improvement in steam and electric locomotives over the years, and the highly successful adaptation of Diesel engines to motive power use in a decade, and say they have been accomplished without research? Streamline passenger trains embody the use of new materials in efficient light-but-strong designs and utilize construction methods undreamed of a few years ago. Less spectacular, but as important, are new freight car designs embodying lightweight materials, improved construction technic, easy riding trucks, safer and more durable wheels, etc. Improvements in rails and track structure, and in signals and in communication systems, have kept pace.

An outstanding example of railway research is the locomotive driving wheel counterbalance investigation which has been conducted during the last two years jointly by the A. A. R. Engineering and Mechanical divisions. Anyone who has ever seen the intricate but efficient test equipment developed for this study, observed the vast amount of data and recording secured at each passing of the test train, and realized how these data are being analyzed to discover the conditions essential for minimizing stress in locomotives and track structures, will testify that the research being done is of a high order.

By similar means, an improved standard design of axle for locomotive tenders and cars has been developed. An investigation of main crank pin performance is pointing the way to improved methods of machining and application which will cause these parts to give better service and increase the potential utilization of steam motive power. Real progress is being made by the Mechanical division's research organization in conserving metals vital to the war effort, the first step being a revision of dimensions which reduces the weight of the A. A. R. standard car journal brass 18 per cent.

The steps now being taken to foster centralized railway research doubtless hold much of promise; but this work should plainly supplement and not duplicate or replace the efforts of individual railways and of manufacturers of railway materials and supplies. In the post-war period the railways and manufacturers for them will again be involved in intense competition with other carriers and manufacturers for them. The future of rail transportation, and of manufacturers who serve it, is dependent upon all-inclusive individual and co-operative research and development work which will enable the railways to give improved service at the lowest practicable unit costs.

Voluntary Effort vs. Government Coercion

The railways have been having recently the most difficulty they have had during the war period in "keeping 'em rolling." As every informed person feared, congestions and delays have been developing where increases of traffic have been greatest.

As early as August 29 *Railway Age* published an editorial entitled, "If Winter Comes," warning of the risk being taken, in view of the effects that severe weather would have, in denying materials for expansion of railway capacity. Unlike most industries, the railways transact most of their business outdoors. Low temperatures reduce the effective power of steam locomotives. Snow and ice hinder train movements and reduce the capacity of terminals by interfering with switching. And bad luck brought unusually bad weather, brought it earlier than usual, and has protracted it.

Congestions having developed, the Office of Defense Transportation and the Interstate Commerce Commission are considering issuing orders for diversions of traffic. Such diversion from railways temporarily crippled, as by floods, is standard practice. But the conditions causing trouble now are not temporary. They are principally due to an enormous increase of traffic on almost all railways; and before diversions are ordered, those who consider ordering them had better make very sure they will not merely transfer congestions from some lines to others, and in the process destroy methods and morale which thus far have achieved amazingly good results.

The regional increases of traffic have been quite unequal. The percentages by which ton-miles increased in the various regions in the first nine months of 1942 over the first nine months of 1940 were: Pocahontas, 20; Northwestern, 63; Central Eastern, 68; Great Lakes, 68.5; New England, 81; Southern, 83; Central Western, 91; Southwestern, 106. The Central Western and Southwestern regions include all lines of the Union Pacific and of other railways south of them. The figures plainly indicate why congestions have developed principally in these regions.

The railways and co-operating shippers have done a superlative job in making possible the handling of such unprecedented increases of traffic, especially where the increases have been greatest. Government for two years has prevented the railways from getting needed equipment and materials, in spite of incessant warnings. Officers of individual railways have co-operated as never before to help each other. Congestions have developed, especially in the west, partly because of undue accumulations of cars where they were ordered by the military, partly because of laws and union rules that have prevented getting enough manpower and using it efficiently, partly because of inability to increase railway capacity.

The handling of the great increase in traffic has thus far been due to *voluntary* efforts of railways and shippers, backed, as needed, by O. D. T. and I. C. C. When these government authorities begin issuing orders not endorsed by railway officers and shippers, they will begin substituting *coercion* for *voluntary effort*. Government already has assumed a heavy responsibility by refusing equipment and materials that both railways and shippers have demanded. Government will assume a further heavy responsibility, and correspondingly relieve railways and shippers of it, when it begins telling them not only *what* it wants done, but *how* to do it.

No central authority, government or other, can know local conditions where trouble develops and how to remedy them as well as railway officers and shippers. O. D. T. and I. C. C. can render effective service in many ways, including that of helping the railways solve manpower problems due to certain laws and union rules which O. D. T. and I. C. C. have as yet shown no strong desire to tackle. Probably no better way of preventing solution of the problems presented by congestions could be adopted than that of having some authority begin issuing orders to "relieve" them.

Absenteeism

The manpower shortage in production and transportation is becoming more and more acute as our fighting forces are increased in size and the need for supplies and munitions grows steadily greater and greater. The shifting of manpower from non-essential industries to war production has been supplemented by the introduction of great numbers of women into the heavy industries. It would seem, however, that there still remain great possibilities in conserving the available manpower by eliminating preventable accidents and taking other measures to reduce absenteeism to a minimum. The National Safety Council, heartily supported by the railroads, tackled the accident problem more strenuously many months ago, when it started its special campaign for five million dollars, to be used to intensify its activities. Undoubtedly this will be reflected in less absenteeism, particularly since activities will be promoted not alone within the industrial plants, but in every phase of American life.

Industry, itself, and various organizations are studying the problem of absenteeism due to other causes and progress is being made, but not nearly as rapidly as it should be. It has been suggested that effective results may possibly best be secured by dramatizing to the workers the needs of our fighting forces at the front and the fact that there is a joint and intimate responsibility between the production soldiers at home and the fighting soldiers. How can this best be done?

The labor-management war production committee at the Symington-Gould plant in Depew, N. Y., sponsored an Army and Navy Day program on January 23. It was quite deliberately set up, with the intent of drama-

tizing the importance and vital necessity of maximum production in the Depew plant to the needs at the fighting fronts. A battalion from the United States Army and a company from the United States Navy participated in the exercises, bringing with them an M-4 General Sherman tank, a 105 mm. howitzer, a 20 mm. Oerlikon Navy anti-aircraft gun and other mechanized equipment. The workers thus had an opportunity of examining at first hand these offensive war machines, which include essential parts made in their own plant. The speakers emphasized the vital relationship between the production and fighting forces and talks were also given by Army and Navy heroes, who vividly described their experiences.

The Depew plant had been losing an average of 650 man-hours a day in absenteeism. This is equivalent to 80 employees, or approximately six per cent of the workers. It will be interesting to see what this dramatization accomplishes in stimulating a larger sense of responsibility and patriotic endeavor on the part of the workers. Railroad employees are faced with an equally pressing responsibility.

Using the Streamliners

All of the country's streamlined trains are now making important contributions to the railways' passenger-carrying capacity. The Empire State Express of the New York Central is one example of this. The normal consist of this train in each direction between New York and Buffalo is 16 cars—1 mail car, 3 parlor cars, 2 dining cars, 9 coaches and 1 observation car. Of this, 1 parlor car, 1 diner and 4 coaches normally continue on to Detroit, and the remainder to Cleveland. Pursuant to the general wartime policy of the railways, full advantage is taken of all potential capacity. Seats are sold in the observation car and the tavern-lounge car has been replaced by a coach. If one of the regular coaches is in the shops, or extra capacity is needed, other new reclining-seat coaches of similar accommodations and floor plan but different outside finish, are used. The uniform stainless steel exterior and attractive appearance, of which the N. Y. C. is proud in peace-time, is frequently sacrificed now, as the occasion demands, for maximum carrying capacity.

The Empire State Express has 622 revenue seats, 105 for parlor car passengers and 517 for coach passengers. It serves a large number of intermediate cities which are important in war production, including Albany, Schenectady, Utica, Syracuse and Rochester. Many passengers leave and board the train at these intermediate points, which has led to the development of a system whereby advance notification of space available in this reserved seat train is given all intermediate stations. The care with which this plan has been worked out is indicated by the fact that during a recent 30-day period, not including holidays, on 60 trips the Empire State Express carried 60,882 passengers; 34,078 westbound and 26,804 eastbound; an average of 1,015 per trip. Thus, each of the 622 revenue reserved seats was occupied, on the average, by 1.63 passengers on each trip.

The first year of operation of the Empire State Express—all during war-time—demonstrates the high equipment utilization and large passenger mileage that such a train can produce under present conditions and on a long daily run in a territory of high travel density. It indicates also the invaluable contribution that these streamliners generally are making in supplying necessary passenger-carrying capacity to aid in the war effort.

Light for Work

At a recent meeting of illuminating engineers, one of the group gave voice to statements which were somewhat reluctantly accepted by his associates as facts. The burden of his talk was that the group had done a first class job of selling but that the engineering they had been doing was second rate. He cited as an example an industrial plant which is equipped with a new "general illumination" lighting system, employing many overhead lighting fixtures and which delivers 40 foot-candles to the horizontal working plane.

The installation is impressive and good to look at, but since maintenance is seldom what it should be, the illumination in a short time may depreciate to 20 foot-candles. It is also probable that some of the work performed (perhaps on a lathe) must be done on a vertical plane. Here it will be found that the illumination is only half of that on the horizontal plane, or 10 foot-candles. When the operator stands up to his work, his own shadow may cut the illumination in half again and it is reduced to 5 foot-candles. The work in the lathe may be steel, which has a reflection factor of 0.3, so the brightness of the work is further reduced to the equivalent of about 1.5 foot-candles on a white surface. The background may be much brighter than the work and this presents still another handicap; or, technically expressed, makes more difficult the task of seeing.

The obvious remedy for such a situation is some form of local lighting, and the engineer's statements were given force by the fact that the company he represents does not manufacture any local lighting equipment. Local lighting, only, common to some railroad shops, may be just as bad as general lighting only, since good lighting must avoid excessive contrasts. The work should be less than eight times as bright as the background, and at no time should the background be brighter than the work. These principles are applicable to the grinding wheel, or the president's desk, and good lighting does have a relationship to work output. Materials are scarce, but local light in a few strategic spots can evidently do much to improve bad conditions and remove the onus for poor work which may have been placed on the worker.

Military Railway Officers Train at Fort Slocum, N.Y.

Railroaders commissioned from civil life take four weeks' instruction in military fundamentals—Other Transportation Corps officers there too

Colonel Bernard Lentz, the Commandant

[At the beginning of World War I] no provision had been made . . . for the proper militarizing of widely varied technical forces skilled in the construction, maintenance and operation of railways, ports and waterways.
—*Transporting the A. E. F. in Western Europe in 1917-1919, by W. J. Wilgus.*

THE Military Railway Service in this war is avoiding the difficulty which Colonel Wilgus and his colleagues experienced in the last one, by providing a four weeks' course of training—primarily in military subjects—for officer personnel, commissioned in the Military Railway Service directly from civilian life. There are two schools for the training of officers already commissioned, which are operated by the Army's Transportation Corps (which Corps embraces the Military Railway Service)—one at Fort Slocum, near New Rochelle, N. Y., and another at Camp Stoneman, near Pittsburg, Calif. There is also a Transportation Corps officer *candidates'* school at Mississippi State College. The school at Fort Slocum, however, is the only one attended by officer personnel of the Military Railway Service. Officers commissioned from civilian life for all other branches of the Transportation Corps get their training either at Slocum or Stoneman.

Instruction for Railroaders is Different

The courses of instruction at the Fort Slocum school differ somewhat for Transportation Corps officers, other than those in the Military Railway Service, on the one hand, and the Military Railway Service officers, on the other. The course for the railway officers runs for four weeks and that of the other transportation officers for six weeks (although it is possible that the course for railway officers may also be extended to six weeks). The instruction provided for both classes of transportation officers is often identical—the principal distinction being that the railway officers have fewer lectures on the Service of Supply and the details of traffic routing.

The reason for this difference is that the functions of Transportation Corps officers, aside from the Military Railway Service, are, for the most part, analogous to those of industrial traffic managers. Hence, they need to learn something of the peculiarities of the traffic they are going to handle—however extensive their traffic experience in civil life may have been. On the other hand, the Military Railway Service is a railway operating and maintenance organization—not immediately concerned with over-all supply and "regulating" problems, which are the function of other Transportation Corps officers.

The officer-students at the Fort Slocum school have the status and pay, of course, appropriate to their military rank. However, they live in barracks and the instruction they receive—especially in military drill and such routine discipline—is provided in part by experienced non-commissioned officers, assigned permanently to the school. The commandant at Fort Slocum and of the school is Colonel Bernard Lentz, who has had extensive experience, not only as a military man, but as an educator—one of his numerous pre-war assignments having been in charge of military training at the University of Minnesota. The assistant commandant is Colonel T. F. McNeill and the secretary is Captain H. D. Hotchkiss. There are several other commissioned officers—each an expert in his specialty—regularly assigned as instructors. In addition, visiting lecturers address the students—among such being the high officers in various branches of the Transportation Corps and, occasionally, some qualified specialists from civilian life.

Incidentally, the Military Railway Service needs more officer personnel—and properly qualified railroad men should find it not difficult to obtain commissions upon application through regular channels.

It is not permissible to go into any detail concerning the schooling provided these officers. It does, however, cover the range of basic military training—including hygiene and sanitation, drill, physical training, military courtesy, the fundamentals of military law, marksmanship, the care and use of the usual weapons of military offense and defense. The Transportaton Corps and the Military Railway Service are not considered non-combatant branches of the Army, and are expected to give a good account of themselves in a military way should occasion demand it.

Training in Army Traffic Work

As stated before, the courses also include what might be called "traffic training" in the peculiarities of such activity from an army standpoint, together with some study of the characteristics of the various agencies of transportation which the army employs—but these courses are more extensive for other Transportation Corps officers than they are for railroaders.

The attitude of the school and its approach to its

task are conveyed to newly-arrived students in an address by the Commandant, which usually embraces the following quotations:

The School's Goal

"It is appropriate to discuss briefly the purpose for which the School is organized and the methods and means that are to be used in conducting the courses. I shall begin by quoting a paragraph from Training Memorandum No. 2, War Department, Office of the Chief of Transportation, Washington, D. C., September 14, 1942, which constitutes our authority for founding the school. To quote:

Training Mission and Objective: (a). The mission or task to be accomplished by the Transportation Corps Officers Training Schools is to train newly appointed Transportation Corps Officers, Reserve officers recently ordered to active duty, and officers requiring a refresher and orientation course, in basic military subjects and to indoctrinate them with the organization of the War Department, Services of Supply, and mission of the Transportation Corps.

"We see that the mission is two-fold, which I can best clarify by telling a story that harks back to the days when I was a second lieutenant in the early 1900's.

"At that time, the soldier's breakfast was far simpler than it is today. Oatmeal porridge was the only cereal that a soldier ever got. About this time the cereal business was being developed, and one after the other, the shredded, the crumbled, the flaked, and the puffed brands found their way into the advertisements.

"We had in my regiment an enterprising company commander who, having read what was said about these wonderful new cereals in his wife's journal, decided to try out some of these cereals on the men in his company, so he ordered a small, escort wagon-load. Two or three days after the cereals arrived, while inspecting barracks, he asked one of the men how he liked the new breakfast foods, and the man pausing for a moment, replied: 'Well, sir, they go fine with ham and eggs.'

"Without reading to you the entire training memorandum which launched our school, let me say that the 'ham and eggs' of this school is soldiering. In other words, in this school it is the intention of the Chief of Transportation to make you *military generalists* by imbuing you with the military virtues that an officer must fully understand if he is to function properly in any branch of a military organization.

Insight Into Army's Transport Problems

"You will also be given something of the story of the problems that the Transportation Corps of an Army must solve. I am assuming that most of you were selected to become officers because you were well versed in some special line that would fit you for becoming officers in the Transportation Corps. But such specialist knowledge, in the conviction of the Chief of Transportation, and other high Transportation Corps officers, as well as the Commandant and the faculty of the School, must be superimposed on a foundation made up of things that we find in such texts as the Soldier's Handbook, the Drill Regulations, and the Courts Martial Manual.

"You officers in the Transportation Corps will have to

One Group of Officers (701st Railway Operating Battalion) Who Have Completed the Course at Fort Slocum

Left to Right, First Row: Major E. F. DeLisle, Lt. Cols. C. W. Coil, J. E. Guilfoyle (commanding), R. J. Crane, Majors J. F. O'Connell, A. G. Hentz, Capts. M. H. Thompson, F. P. Stafford; Second Row, Capts. J. A. Roell, G. M. Schmidbauer, L. R. Zack, F. H. Dugan, W. W. Herrick, 1st Lt. G. S. Glaiber, Capts. A. G. Teets, F. A. Brazell; Third Row, 1st Lt. K. L. Miner, Capts. S. J. Keating, L. Bristow, 1st Lts. J. B. Huckabay, A. J. Serieno, Capts. W. R. Main, A. A. Bush.

handle men under many trying conditions. If we remember that it is still true (in spite of all the airplanes, tanks, and what not) that men make war, and therefore men must fight it, then the wisdom of basing the course of this school on soldiering becomes clear.

"Please don't think that the technical side is not of vital importance too. It is, but the technical side of your work as Transportation Officers, aside from the orientation lectures and studies you will get here, can be learned only one way, and that is by *doing;* by the applicatory method, as we say in our Army schools.

"Tamerlane, the great Mongol conqueror of the fourteenth century, had something important to say on transportation. (I think we shall do well to listen to Tamerlane when he speaks on Transportation, for he was one conqueror who roamed over hundreds of thousands of square miles of territory almost ad libitum, his transportation being horses.) This is what Tamerlane had to say: 'It is better to be at the right place with ten men than absent with ten thousand.'

"The ideology which we shall use in The Atlantic Branch of the Transportation Corps Officers Training School, embodies the democratic way. For our definition of the democratic way of doing things, I refer you to a letter entitled 'Morale and Discipline,' dated October 16, 1940, War Department, Office of the Chief of Staff, Washington, D. C. This letter was sent out by General Marshall, shortly before the draft went into effect. I quote from this letter as follows:

> First in importance will be the development of a high morale and the building of a sound discipline, based on wise leadership and a spirit of mutual cooperation throughout all ranks. Morale, engendered by thoughtful consideration for officers and enlisted men by their commanders, will produce a cheerful and understanding subordination of the individual to the good of the team. This is the essence of the American standard of discipline, and it is a primary responsibility of leaders to develop and maintain such a standard.

"This school will be run on the principle supposed to obtain in a Liberal Arts college. Liberal Arts really means: Disciplined thinking. And is not disciplined thinking the very thing we are after in all our Army schools devoted to the instruction of officers?"

The Railway Student Personnel

Officers of the Military Railway Service in the Fort Slocum School at the present time include the following (the figure after each name being the Railway Battalion to which he is assigned and the abbreviations thereafter showing his railway connection prior to entrance into military service):

Lt. Col. G. R. Branch, 725, supt., C. R. I. & P.
Major R. O. Jensen, 725, asst. supt., Soo Line.
Capt. J. M. Bannon, 725, transp. dept., C. R. I. & P.
" B. L. Daniels, 725, roadmast. & asst. t.m., F. W. & D. C.
" F. J. Hayes, 755, asst. gen. foreman, Erie.
" W. M. Lenderman, 725, acct. U. S. Dept. of Labor, formerly with M-K-T.
" H. R. Phillips, 725, chf. clk. to d.s.k., D. & R. G. W.
" F. H. Winget, 725, m.m., N. Y. C.
" W. E. Zinzer, 755, r.h. foreman, N. P.
1st Lt. J. L. Bailey, 756, gang foreman, P. R. R.
" " J. W. Curran, 725, road foreman, C. R. I. & P.
" " C. S. Cuyler, 725, Intl. Harvester Co., formerly with C. R. I. & P.
" " O. C. Dein, 725, asst. engr., C. R. I. & P.
" " F. E. Harrison, 725, yardmaster, C. & N. W.
" " E. H. Hays, 725, roadmaster, C. R. I. & P.
" " H. M. Hesser, 728, signal supr., L. & N.
" " M. Jarrett, 704, water service foreman, S. P.
" " R. E. Massengill, 725, train dispr., C. R. I. & P.
" " R. E. Maxwell, 728, car foreman, A. T. & S. F.
" " T. L. McCall, 725, signal foreman, T. & P.
" " C. W. Richards, 725, loco. engr., C. & N. W.
2d Lt. J. N. Ikner, 725, yardmaster, P. M.
" " W. E. Simpson, 725, Alumin. Co., formerly C. R. I & P.
" " W. E. Worstall, 725, car inspector, C. R. I. & P.

Among the other railroad men in the Fort Slocum Transportation Corps School are:

Capt. C. L. Payne, transp. clerk, Frisco.
1st Lt. R. E. Kelder, yard condr., Erie.
" " B. K. Smith, y.m. & t.m., S. P.
2d Lt. J. R. Byrne, eastern dairy agt., N. K. P.
" " E. P. Curran, inspector, Trunk Line Assn.
" " C. D. Rockhill, perishable agt., L. V.
" " C. H. Bayer, perishable agt., Mo. P.
" " L. G. Redmon, sec. to asst. supt., L. & N.
" " R. J. Routzahn, traffic agt., I. C.

Transportation Corps officers at Fort Slocum, aside from the Military Railway Service, represent most other branches of transportation—trucking, buses, air transportation, water lines. A considerable number of them hail from the traffic departments of industry.

One group of officers of the Military Railway Service has already been graduated from the Fort Slocum school—mostly from the 701st, 728th, 729th and 756th railway operating battalions. Their names, with communities whence they come, which, in most cases, will suggest their former railway connections, follow:

Lt. Col. William S. Carr, West Haven, Conn.
" " Corbett W. Coil, Spokane, Wash.
" " Robert J. Crane, Yonkers, N. Y.
" " James E. Guilfoyle, Buffalo, N. Y.
" " Carl D. Love, L. & N., Louisville, Ky.
Maj. Howard U. Bates, Canton, Ohio.
" Ralph W. Beard, Reading, Pa.
" Edgar F. DeLisle, Kenmore, N. Y.
" Elmer R. Harris, Louisville, Ky.
" Albert G. Hentz, Kenmore, N. Y.
" James F. O'Connell, Syracuse, N. Y.
Capt. Alexander C. Atchison, Knoxville, Tenn.
" Francis A. Brazell, Yonkers, N. Y.
" Earl B. Bridges, E. St. Louis, Ill.
" Allen A. Bush, Childress, Texas.
" Frank H. Dugan, Mt. Vernon. N. Y.
" Paul H. Fleming, Louisville, Ky.
" Frank D. Heflin, Nashville, Tenn.
" William W. Herrick, Jr., New York, N. Y.
" Robert W. Hooper, West Haven, Conn.
" James E. Inman, Lombard, Ill.
" Stephen J. Keating, Kingston, N. Y.
" Wilfred P. Kennedy, New Haven, Conn.
" William R. Main, Albany, N. Y.
" Mark A. McGee, Covington, Ky.
" Robert L. Morris, Nashville, Tenn.
" Clarence E. Page, N. Little Rock, Ark.
" James M. Robertson, Altoona, Pa.
" Joseph A. Roell, Niagara Falls, N. Y.
" Evan Russell, Narberth, Pa.
" George M. Schmidbauer, Albany, N. Y.
" Charles E. Smith, Devon, Pa.
" Frank R. Stafford, Chicago, Ill.
" Arthur G. Teets, Bucyrus, O.
" Monier H. Thomson, Albany, N. Y.
" Frank E. Turner, Houston, Texas.
" Joseph A. Vargas, III, Westerly, R. I.
" John S. Wike, Tarrytown, N. Y.
" Leo R. Zack, Eggertsville, N. Y.
1st Lt. Reg M. Cheney, Brooklyn, N. Y.
" " Albert E. Crowley, Terre Haute, Ind.
" " Anthony A. D'Angelo, Hartford, Conn.
" " Edward P. Delaney, Altoona, Pa.
" " William F. Farlich, Hoisington, Kansas.
" " Harold W. Gardiner, Swansea, Mass.
" " Godfrey S. Glaiber, Tarrytown, N. Y.
" " William J. B. Gunion, Elkshart, Ind.
" " Russell R. Hilsinger, Reading, Pa.
" " John B. Huckabay, Amarillo, Texas.
" " Guy F. Hyett, Chicago, Ill.
" " Claude Johnston, Jr., Louisville, Ky.
" " Walter H. Keebler, Louisville, Ky.
" " Frederick A. Kroll, New Haven, Conn.
" " Gerald T. McMaster, Philadelphia, Pa.
" " Kenneth L. Miner, Albany, N. Y.
" " William A. Moore, Birmingham, Ala.
" " Eric G. Peterson, Glenbrook, Conn.
" " Fred Rusche, Cincinnati, Ohio.
" " Frederick Schneider, New Haven, Conn.
" " Anthony J. Serieno, Syracuse, N. Y.
" " Greely R. Sproles, Jr., Louisville, Ky.
" " Edgar B. Sweet, New Haven, Conn.
" " William H. Walters, Jr., Bryn Mawr, Pa.
" " Harry F. Weaver, Bath, Pa.
" " Francis Bailey Wing, Dover, N. H.
" " William H. Yarber, Harrisburg, Pa.
2d Lt. Henry D. Eglin, Decatur, Illinois.
" " David Franks, Louisville, Ky.
" " Wilfred H. Holland, Melrose, Mass.
" " Alfred James, Jr., Hillside, N. J.
" " William P. Kelley, Altoona, Pa.
" " Wm. McFadden, Sr., Paris, Tenn.
" " Robert H. Tiley, Altoona, Pa.
" " Donald C. Tobin, Columbus, O.
" " Donald E. Sheeran, Dayton, Ohio.
" " Benjamin Waters, Whitehall, N. Y.

Locomotive Defects and Casualties Show Decided Increase

Report of the Bureau of Locomotive Inspection is indicative of the influence of operation under present conditions—Need for increased vigilance is apparent

THE influence of wartime conditions on railroad operation may account for some of the changing trends in the statistics of inspections, defects, accidents and casualties in relation to locomotives, as indicated by the annual report of John M. Hall, director of the Bureau of Locomotive Inspection, to the Interstate Commerce Commission for the fiscal year ended June 30, 1942. While reports with respect to steam locomotives were filed for 285 fewer locomotives in 1942 than in the previous year the activities of the Bureau's inspectors were reflected by the fact that 7,776 more inspections were made and 1,400 more locomotives were found defective, an increase in the percentage of locomotives inspected of 1 per cent over 1941. While 7,237 more defects were found on the locomotives inspected, only 474 steam locomotives were ordered out of service as compared with 560 the previous year.

In the case of locomotives other than steam the number of units for which reports were filed increased, as did the number of inspections and defects found. The character of the defects, however, was such as to require fewer units ordered out of service.

In the matter of accidents and casualties the record for 1942 is not a favorable one for there was a decided increase, as shown by the accompanying tables.

Explosions and Other Boiler Accidents

All of the 13 explosions that occurred in the fiscal year, in which 23 persons were killed and 18 injured, were caused by overheating of the crown sheets due to low water. There was an increase of 2 accidents, an increase of 12 persons killed, and a decrease of 11 persons injured from this cause as compared with the preceding year.

In three of these accidents, in which nine employees were killed and two employees and two passengers injured, the force of the explosions tore the boilers from the running gears and hurled the boilers and other parts for considerable distances from the points of the explosions. In another instance where the boiler was torn from the running gear and two employees were killed and one was injured, the accident occurred in a tunnel, the boiler struck the roof of the tunnel and alighted on the front engine of the articulated running gear. In three other accidents, in which five employees were killed and four injured, the boilers remained attached to the running gears but the force of the explosions caused derailments. Three employees were killed and four employees injured in an accident that occurred while the locomotive was in the enginehouse; the rear end of the locomotive was lifted from the rails and displaced sidewise and parts of the enginehouse were wrecked. Four employees were killed and five employees injured in the remaining five accidents, in which the explosions were less violent than those described in the foregoing.

The serious results of boiler explosions are well known to railroad men and explosions have been materially reduced since the inception of the Boiler Inspection Act; however, there has been an increase in such accidents in the past 2 years with consequent increased loss of life and injuries and destruction of equipment.

Many locomotives are equipped with protective devices such as syphons, multiple drop or fusible plugs, and low-water alarms, all of which have no doubt prevented boiler explosions or minimized the severity thereof. Carriers that are continuing to make applications of devices of this character are making a distinct contribution to the conservation of human resources and equipment.

Boiler and appurtenance accidents other than explosions resulted in the deaths of 7 persons and injuries to 65 persons; this is an increase of 6 deaths and 30 injuries as compared with the preceding year.

Table I.—Reports and Inspections—Steam Locomotives

	Year ended June 30					
	1942	1941	1940	1939	1938	1937
Number of locomotive for which reports were filed	42,951	43,236	44,274	45,965	47,397	48,025
Number inspected	113,451	105,675	102,164	105,606	105,186	100,033
Number found defective	10,970	9,570	8,565	9,099	11,050	12,402
Percentage inspected found defective	10	9	8	9	11	12
Number ordered out of service	474	560	487	468	679	934
Number of defects found	44,928	37,691	32,677	33,490	42,214	49,746

Table II.—Reports and Inspections—Locomotives Other Than Steam

	Year ended June 30					
	1942	1941	1940	1939	1938	1937
Number of locomotive units for which reports were filed	3,957	3,389	2,987	2,716	2,555	2,416
Number inspected	6,728	5,558	4,974	4,581	4,024	3,615
Number found defective	358	319	298	260	274	328
Percentage inspected found defective	5	6	6	6	7	9
Number ordered out of service	12	21	16	14	9	24
Total number of defects found	928	905	766	696	769	991

Extension of Time for Removal of Flues

One thousand and seventy-nine applications were filed for extensions of time for removal of flues, as provided in Rule 10. Investigations disclosed that in 57 of these cases the condition of the locomotives was such that extensions could not properly be granted. Twenty-eight were in such condition that the full extensions requested could not be authorized, but extensions for shorter periods of time were allowed. Forty-six extensions were granted after defects disclosed by our investigations were

Table III.—Accidents and Casualties Caused By Failure of Some Part of the Steam Locomotive, Including Boiler, Or Tender

	Year ended June 30—					
	1942	1941	1940	1939	1938	1937
Number of accidents	222	153	164	152	208	263
Percent increase or decrease from previous year	[1] 45.1	6.7	[1] 7.9	26.9	20.9	[1] 25.8
Number of persons killed	34	15	18	15	7	25
Percent increase or decrease from previous year	[1] 126.7	16.7	[1] 20.0	[1] 114.3	72.0	[1] 52.2
Number of persons injured	227	182	225	164	216	283
Percent increase or decrease from previous year	[1] 24.7	19.1	[1] 37.2	24.1	23.7	[1] 31.6

[1] Increase.

Table IV.—Accidents and Casualties Caused By Failure of Some Part Or Appurtenance of the Steam Locomotive Boiler[1]

	Year ended June 30—							
	1942	1941	1940	1939	1938	1937	1915	1912
Number of accidents	81	43	67	52	59	63	424	856
Number of persons killed	30	12	16	15	5	19	13	91
Number of persons injured	83	64	110	55	59	73	467	1,005

[1] The original act applied only to the locomotive boiler.

Table V.—Accidents and Casualties Caused By Failure of Some Part Or Appurtenance of Locomotives Other Than Steam

	Year ended June 30—				
	1942	1941	1940	1939	1938
Number of accidents	9	11	7	5	4
Number of persons killed	..	..	..	..	..
Number of persons injured	9	11	7	5	4

required to be repaired. Twenty-seven applications were canceled for various reasons. Nine hundred and twenty-one applications were granted for the full period requested.

Locomotives Propelled by Power Other Than Steam

There was a decrease of two in the number of accidents occurring in connection with locomotives other than steam and a decrease of two in the number of persons injured as compared with the preceding year. No deaths occurred in either year.

During the year five per cent of the locomotives inspected were found with defects or errors in inspection that should have been corrected before the locomotives were put into use; this represents a decrease of one per cent compared with the results obtained in the preceding year. There was a decrease of nine in the number of locomotives ordered withheld from service by our inspectors because of the presence of defects that rendered the locomotives immediately unsafe.

Specification Cards and Alteration Reports

Under Rule 54 of the Rules and Instructions for Inspection and Testing of Steam Locomotives, 312 specification cards and 8,241 alteration reports were filed, checked, and analyzed. These reports are necessary in order to determine whether or not the boilers represented were so constructed or repaired as to render safe and proper service and whether the stresses were within the allowed limits. Corrective measures were taken with respect to numerous discrepancies found.

Under Rules 328 and 329 of the Rules and Instructions for Inspection and Testing of Locomotives Other

Table VI.—Number of Casualties Classified According to Occupation—Steam Locomotive Accidents Results of Service Tests

	Year ended June 30									
	1942		1941		1940		1939		1938	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Members of train crews:										
Engineers	10	79	5	41	5	70	4	46	3	70
Firemen	12	73	5	68	6	49	6	66	2	80
Brakemen	4	32	3	21	4	24	2	18	..	31
Conductors	..	7	..	8	1	4	..	5	..	6
Switchmen	..	5	..	6	..	4	..	6	..	7
Roundhouse and shop employees:										
Boilermakers	2	4	..	..	1	3	1	1	..	2
Machinists	..	5	1	3	..	3	..	2	..	..
Foremen	..	1	..	2	..	..	..	..	..	1
Inspectors	1	2	..	..	..	..	..	..	..	1
Watchmen	..	..	1	2	..	1	..	1	2	..
Boiler washers	..	..	..	..	..	..	..	..	..	1
Hostlers	..	4	..	3	..	2	..	1	..	6
Other roundhouse and shop employees	3	3	..	1	..	1	..	2	..	1
Other employees	2	3	..	9	1	20	..	2	..	3
Nonemployees	..	9	..	18	..	44	2	14	..	7
Total	34	227	15	182	18	225	15	164	7	216

Table VII.—Number of Casualties Classified According to Occupation—Locomotives Other Than Steam

	Year ended June 30									
	1942		1941		1940		1939		1938	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Members of train crews:										
Engineers	..	5	..	1	..	2	..	3	..	3
Firemen	..	2	..	5	..	2	..	1	..	..
Brakemen	..	1	..	1	..	..	..	1	..	..
Conductors	..	..	..	1	..	1	..	..	..	..
Switchmen	..	1	..	..	..	1	..	..	..	1
Maintenance employees	..	..	..	2	..	1	..	..	..	..
Other employees	..	..	..	..	..	..	..	..	..	..
Nonemployees	..	..	..	1	..	..	..	..	..	..
Total	..	8	..	11	..	7	..	5	..	4

Than Steam, 666 specifications and 316 alteration reports were filed for locomotive units and 99 specifications and 111 alteration reports were filed for boilers mounted on locomotives other than steam. These were checked and analyzed and corrective measures taken with respect to discrepancies found.

Legal

One case of violation of the rules and instructions for inspection and testing of steam locomotives and tenders and their appurtenances, comprising 17 counts, was pending in the district court at the beginning of the year. This case was dismissed upon compliance with the provisions by the carrier and agreement to avoid such violations in the future.

Special Work

In response to requests from military and naval authorities and other Government agencies engaged in the war effort, inspections of various locomotives and work equipment were made to determine the condition and suitability for the respective uses, and cooperative assistance was rendered in other respects. These locomotives are being generally maintained to the standards prescribed by the locomotive-inspection law and rules governing the condition of locomotives used on the lines of common carriers and inspections are currently made by our inspectors.

No formal appeal by any carrier was taken from the decisions of any inspector during the year.

Accident Prevention

Due to the increase in accidents, Mr. Hall found it advisable to repeat an appeal for better inspection and maintenance which appeared in his report of last year. That portion of his report on which he placed emphasis appeared in the second column, page 209, and first column, page 210, of the January 17, 1942, issue of *Railway Age*.

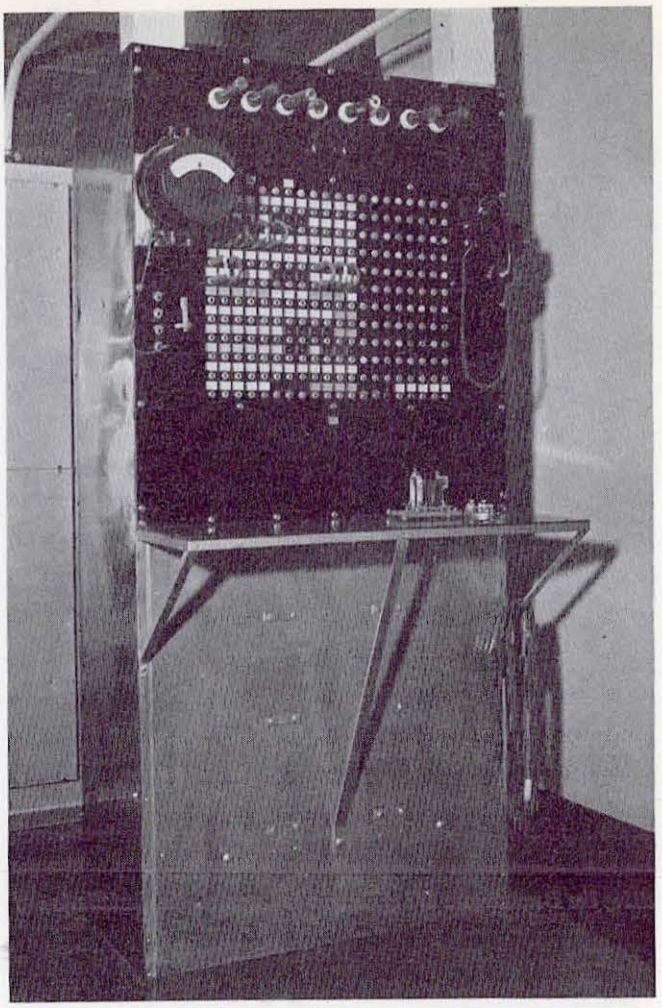
The report included recommendations for salary increases for the director, two assistant directors and the district inspectors; also for the provision of five additional district inspectors.

D.&R.G.W. War Time Telegraph Switchboard

WHEN planning the removal of the general offices of the Denver & Rio Grande Western from the Equitable building in Denver, Colo., to the newly acquired Rio Grande building, A. S. Hunt, superintendent of telegraph, realized that the change-over would require an extra telegraph switchboard in the new building.

The railroad telegraph traffic is now the highest in the history of the railroad, averaging 10,000 hundred-word messages daily, and this communication could not be interrupted long enough to move the old switchboard to the new building.

On account of the shortage of critical materials, it was impossible to purchase a new switchboard on the market. Therefore, Mr. Hunt assembled materials from various sources, including scrap piles, and proceeded to build a switchboard in the basement of his home after office hours, about three months being required to complete the work.



The New Telegraph Switchboard

The frame work and cabinet portions of the new telegraph switchboard were made from a sheet-metal storage cabinet 18 in. by 36 in. by 72 in., angle iron sections being added to make the cabinet rigid. A sheet of ½-in. black bakelite, 36 in. wide and 40 in. high, was used for the panel. The next problem was to design the layout of jacks and instruments to terminate the railroad communication lines, including 3,806 miles of telephone circuits and 6,000 miles of telephone circuits which incorporated 3,500 miles of printing telegraph service. Having planned the layout, holes were drilled in the bakelite panel for mounting the equipment. After the new panel was attached, terminals were installed in the lower section of the cabinet, and connections were added between these terminals and the jacks on the board.

The complete new switchboard was then installed in its permanent location in the newly remodeled office building, and line circuits were extended and connected to the terminals. On the moving day, any given circuit could be worked in either the old office or the new one, up to the time the telephones, telegraph instruments and printing telegraph machines were ready for service in the new locations. Thus the change-over was accomplished without interrupting the efficient handling of telephone service or telegraph message traffic. The new switchboard is of better construction and includes several new features, so that the old one was dismantled, the parts being salvaged.

Setting the Downstream Wing Section to Complete the Installation of the Culvert

Precast Concrete Culvert Solved Troublesome Channel Problem

Replacement of light wood trestle involved several factors, including delays to traffic and flooding of tracks, which were overcome by unique design adopted

THE Bessemer & Lake Erie recently solved a troublesome problem involving the replacement of a bridge over a stream having a quick runoff, by devising a novel design for the new structure and by employing an interesting method for making the installation. In making the change, the old structure, a ballasted-deck timber trestle, was replaced by a precast concrete culvert with wing walls, built in sections weighing up to 49 tons, which were hauled 30 miles from the casting yard to the site of the work, and which, when loaded on cars, extended well beyond the lines of the clearance diagram for this road.

Bridge No. 80, located a short distance south of Springboro, Pa., consisted of a single span of 12 ft. 6 in., with timber bents acting as abutments, which were made up of sills, posts and caps, all of 12-in. by 12-in. timbers, carrying wood stringers that were covered by a plank floor to support the ballast, which was between two and three feet deep. The clear height of the opening varied from 4 ft. at the upstream end to 2 ft. 6 in. at the lower or outlet end. The reason for this difference was that the track at this point is on a curve of 3 deg. 4 min., and the elevation for the curve had been framed in the bents. This bridge was built as a single-track structure in 1897, and was extended for second track in 1906. Although it had been well maintained and the timbers were sound, the bridge had reached the end of its service life, being far below the present standards of this road, while the opening was insufficient for the heavy rainfalls that occur so frequently in this vicinity.

Runoff Gradients Are Steep

While the stream that this opening serves is of secondary importance, in that it drains an area of only 450 acres and empties into Conneaut creek, a sizeable stream, about 800 ft. below the bridge, the slope of the drainage area and the gradient of the stream bed are both steep,

so that the runoff is rapid and a clear opening of sufficient area to avoid obstructing the maximum flow is demanded at all times. As an indication of the runoff conditions, there is a highway about 1,100 ft. upstream from the railway, and in this distance the stream bed falls 33 ft., averaging a 3 per cent gradient. Below the railway the gradient flattens out, averaging about 1½ per cent.

The new structure, which is a rectangular concrete box, has a span of 10 ft. and a clear height of 4 ft. The barrel section is 32 ft. 9 in. long and wing walls extend 12 ft. 6 in. beyond the barrel at each end of the culvert. The stream bed, comprised of gravel, sand and loam, combined, provides ample bearing for the structure and it was considered that it would also provide a sufficiently stable foundation for this type of construction. The section of the culvert and the reinforcing were conventional. The average depth of fill and ballast combined, over the top of the concrete is 3 ft. 9 in.

Other Methods More Costly

Studies preliminary to the design of the structure indicated that the cost of concrete abutments and either steel beams or concrete slabs to span the opening, would be relatively high and that they would create some restriction to the desired head room, besides which installation of the necessary falsework presented both physical and operating difficulties. There was also the further objection that neither of these schemes could be carried out without offering some obstruction to the flow in the event of a heavy rain and high runoff during the period of construction, this setting the stage for the flooding of the tracks.

Owing to the small difference between the elevation of the tracks and the stream bed, head room was a matter of considerable concern. However, a further study of the problem showed that by diverting some of the flood water through a concrete culvert pipe about 300 ft. to the south of the bridge, a smaller opening than was first planned could be used. The concrete pipe was installed, thus making it possible to use the design that was finally adopted. The principal advantage of this design was that it required no temporary support for the tracks, for which reason it avoided completely any obstruction to the channel of the stream. Of only slightly less importance, in view of the character and the volume of the traffic passing this point, the installation could be made without delaying or otherwise interfering with the movement of trains.

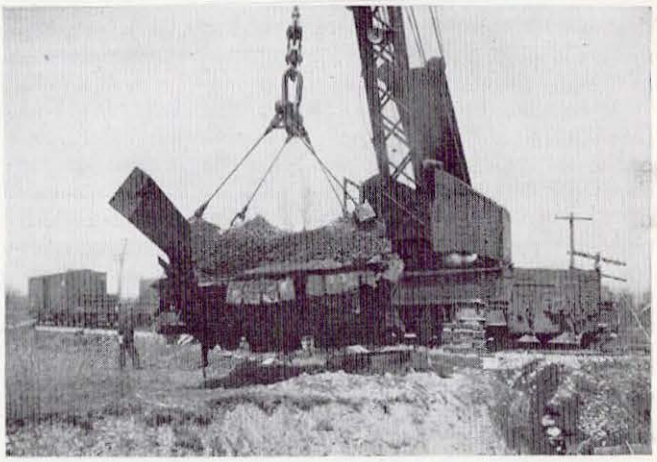
Culvert Divided Into Four Sections

In developing the design, the culvert was divided into four sections, namely, two barrel or box sections to be placed under the tracks, and two end or wing sections. The barrel is rectangular, with inside dimensions 4 ft. by 10 ft., and a total length of 32 ft. 9 in. The end sections are each 12 ft. 6 in. The wings at the upstream or inlet end flare at an angle of 30 deg., while those at the outlet are parallel with the walls of the culvert. This was done for the obvious reason that it is undesirable to allow the water to spread out as it leaves the barrel section and thus tend to invite deposition at the mouth of the culvert of material held in suspension. Because the gradient of the stream bed flattens out noticeably below the culvert it became particularly desirable for the water to retain its full velocity until it clears the culvert.

A crown of 3 in. was provided on the top surface of the box section to facilitate drainage. The top was then protected with two plies of waterproofing fabric, well mopped on, and a course of 1½-in. asphalt plank. A liquid waterproofing material was applied to the outside surfaces of the sidewalls. This waterproofing was applied to both the top and sides in the casting yard before the sections were loaded for shipment to the point of installation.

To facilitate the setting of the several sections, to insure correct alinement of the culvert assembly and to provide tight joints after the sections were assembled, both the box and end sections were made with lap or rebated joints. This also permitted the sections to be set in the desired sequence, beginning with the east box section under the northbound track. This was followed by the east or flared-wing section, after which the west box section and then the west or downstream wing section were placed. A further advantage of this detail is that the joints are interlocked and thus resist forces that tend to disturb the alinement of the constituent sections.

In arriving at the decision to use a pre-cast concrete structure, it was recognized that there were objections, other than those of convenience, to constructing the several sections adjacent to the site of the work, not the least of which was that they would have to be both loaded and unloaded from the main track when they were transferred to the point of installation, and that any hitch in either operation might delay important traffic. It was decided, therefore, to cast the sections in the shop yard at Greenville, Pa., 30 miles from the bridge. This permitted the materials entering into the construction to be unloaded and the finished sections to be loaded at a point



The Ballast Deck Was Removed in a Single Operation

Placing the Box Section for the Southbound Track

region (railway earnings not being excessive) "would merely represent the necessary cost of maintaining adequate service." Changing conditions in a region might bring more favorable revenue results from a given rate level—in which case it might be modified, "but such changing conditions should themselves be the justifying cause of the general rate changes, rather than the resulting effect of rate reductions having no other justification than the speculative anticipation of such possible effects."

"Destination Level Theory" Opposed

The Eastern lines do not believe that interterritorial class rates on the Official level can be justified unless class rates within the territories are also on the same level, are subjected to the same classification ratings, and equal bases of divisions are applied to regional carrier groups. The principle of making class rates the same in both directions is defended, but the "destination level theory" is opposed as a "mere excuse" to "favor shippers in one territory against those in another." The support of the Southern lines of this basis, and their assertion that equalizing northbound and southbound rates would "bankrupt" them, is characterized as "much overdrawn."

The presentation of the Western roads was made last June by J. A. Farmar, chairman of the Western Traffic Executive Committee, as noted in the *Railway Age* of June 13, 1942, page 1147. Since that time, J. G. Kerr, chairman of the Southern Freight Association, has submitted the views of the Southern roads, which were made public by the Board last week. The Southern roads take the general position that no fixed rule can be applied in the making of interterritorial rates, for different conditions require different approaches. In other words, "the making of freight rates is a practical matter and not one of theories or fixed formulae."

Before getting into interterritorial rates themselves, Mr. Kerr suggests that the Board should first determine the "fundamental" questions of whether or not the industrial development of the South has in fact been retarded; and, if so, whether the lack of development has been due to interterritorial freight rates. The Southern roads think there has been no lack of development in the South as compared with other sections; on the contrary Southern manufacturing has in recent years "increased by leaps and bounds." And the Southern roads have received no shipper complaints indicating the existence of any general dissatisfaction with the measure of their rates or the method of construction.

Present Rates Move the Traffic

Asserting that interterritorial rates "should be, and are at present, made on bases which enable commodities to move freely," Mr. Kerr went on to say that the Southern railroads "have never advocated the destination level for uniform or universal application." That basis is, however, "of great importance" which respect to many articles manufactured in the South which "are sold in Official Territory in competition with like articles manufactured within that territory." On the other hand, many commodities produced in the South "are not produced to any appreciable extent within Official Territory," and they meet no "local competition" in Official Territory. Here "the destination level is of no importance and the main thing to be considered is the intrinsic and relative reasonableness of rates from all producing sections to Official Territory."

Southern roads are more interested in rates between Southern and Official territories than in other interterritorial rates because of the heavy traffic between the North and South. Because of the lower intraterritorial basis within Official Territory, it has been "recognized" in the past, as Mr. Kerr put it, "that the Southern manufacturers generally must have rates to Official Territory approximating the level within that territory if they are to market their products therein in cases where there is active competition with manufacturers located north of the Ohio and Potomac rivers." And their contention that with respect to this class of traffic "the principal guide . . . should be the destination level," is supported "by many expressions of the Interstate Commerce Commission."

With respect to southbound rates from Official to Southern territory, the Southern lines "as a general proposition insist" that these, too, be on the destination basis, i.e., they "should not be lower relatively than rates for corresponding distances within Southern territory." Otherwise, the Official Territory shippers would come into the South on a rate level "generally lower than the level within the South"; while the Southern roads would be unable to put their intraterritorial shippers on the same basis without going bankrupt. This idea of different rates in different directions between the same points, Mr. Kerr says, is neither "new, novel, nor unlawful," and it has been "approved by the Interstate Commerce Commission."

"Destination Level Theory" Defended

Coming to the rate adjustment between Southern and Southwestern territories, Mr. Kerr points out that the rate level in the former is "on the whole lower" than in the Southwest. Yet, the Southern roads "have and expect to continue to join the Southwestern lines in rates to the South on commodities shipped from the Southwest in competition with like commodities produced in Southern Territory on the general level of rates which prevails in the South." In other words, Mr. Kerr went on, "the Southern lines accord the Southwestern lines and shippers the same rights which they insist upon for Southern lines and Southern shippers with respect to rates to Official Territory."

From the South to the Southwest "a somewhat different problem" arises; and the Southern roads believe that as a general proposition rates into the Southwest from both Southern and Official territories should be on the destination basis. As to some commodities produced in Official and Southern territories, which are shipped to the Southwest, with the rates from Official Territory lower than the destination level, the Southern lines "insist on rates in line with rates from Official Territory."

In concluding his presentation, Mr. Kerr emphasized the Southern roads' view that no legislation is required to deal with the interterritorial rate situation. In that connection he subscribed to the like suggestion in the National Resources Planning Board's recent report on "Transportation and National Policy" which said that "further legislative treatment" of the matter "appears inadvisable," and called upon interested parties to "lend their co-operation to the Interstate Commerce Commission in order that a fair solution may be sought in an objective and dispassionate spirit."

"There is no art which one government sooner learns of another than that of draining money from the pockets of the people."—Adam Smith.

so that the runoff is rapid and a clear opening of sufficient area to avoid obstructing the maximum flow is demanded at all times. As an indication of the runoff conditions, there is a highway about 1,100 ft. upstream from the railway, and in this distance the stream bed falls 33 ft., averaging a 3 per cent gradient. Below the railway the gradient flattens out, averaging about 1½ per cent.

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Other Methods More Costly

Studies preliminary to the design of the structure indicated that the cost of concrete abutments and either steel beams or concrete slabs to span the opening, would be relatively high and that they would create some restriction to the desired head room, besides which installation of the necessary falsework presented both physical and operating difficulties. There was also the further objection that neither of these schemes could be carried out without offering some obstruction to the flow in the event of a heavy rain and high runoff during the period of construction, this setting the stage for the flooding of the tracks.

Owing to the small difference between the elevation of the tracks and the stream bed, head room was a matter of considerable concern. However, a further study of the problem showed that by diverting some of the flood water through a concrete culvert pipe about 300 ft. to the south of the bridge, a smaller opening than was first planned could be used. The concrete pipe was installed, thus making it possible to use the design that was finally adopted. The principal advantage of this design was that it required no temporary support for the tracks, for which reason it avoided completely any obstruction to the channel of the stream. Of only slightly less importance, in view of the character and the volume of the traffic passing this point, the installation could be made without delaying or otherwise interfering with the movement of trains.

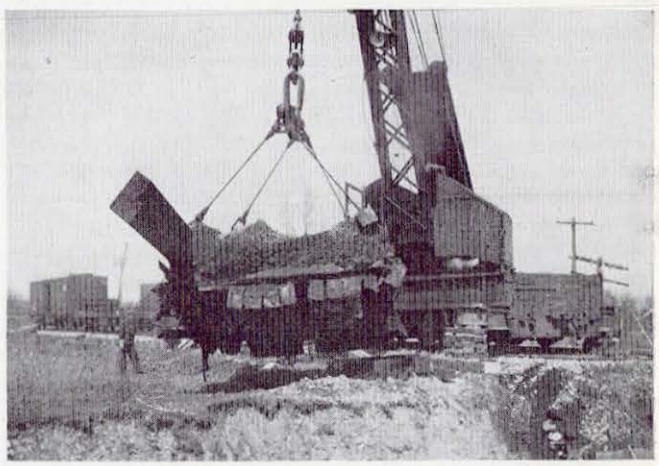
Culvert Divided Into Four Sections

In developing the design, the culvert was divided into four sections, namely, two barrel or box sections to be placed under the tracks, and two end or wing sections. The barrel is rectangular, with inside dimensions 4 ft. by 10 ft., and a total length of 32 ft. 9 in. The end sections are each 12 ft. 6 in. The wings at the upstream or inlet end flare at an angle of 30 deg., while those at the outlet are parallel with the walls of the culvert. This was done for the obvious reason that it is undesirable to allow the water to spread out as it leaves the barrel section and thus tend to invite deposition at the mouth of the culvert of material held in suspension. Because the gradient of the stream bed flattens out noticeably below the culvert it became particularly desirable for the water to retain its full velocity until it clears the culvert.

A crown of 3 in. was provided on the top surface of the box section to facilitate drainage. The top was then protected with two plies of waterproofing fabric, well mopped on, and a course of 1½-in. asphalt plank. A liquid waterproofing material was applied to the outside surfaces of the sidewalls. This waterproofing was applied to both the top and sides in the casting yard before the sections were loaded for shipment to the point of installation.

To facilitate the setting of the several sections, to insure correct alinement of the culvert assembly and to provide tight joints after the sections were assembled, both the box and end sections were made with lap or rebated joints. This also permitted the sections to be set in the desired sequence, beginning with the east box section under the northbound track. This was followed by the east or flared-wing section, after which the west box section and then the west or downstream wing section were placed. A further advantage of this detail is that the joints are interlocked and thus resist forces that tend to disturb the alinement of the constituent sections.

In arriving at the decision to use a pre-cast concrete structure, it was recognized that there were objections, other than those of convenience, to constructing the several sections adjacent to the site of the work, not the least of which was that they would have to be both loaded and unloaded from the main track when they were transferred to the point of installation, and that any hitch in either operation might delay important traffic. It was decided, therefore, to cast the sections in the shop yard at Greenville, Pa., 30 miles from the bridge. This permitted the materials entering into the construction to be unloaded and the finished sections to be loaded at a point



The Ballast Deck Was Removed in a Single Operation

Placing the Box Section for the Southbound Track

removed from the main line, with no interference with traffic.

Each of the barrel sections was 16 ft. 4½ in. long and weighed 49 tons. The wing sections weighed 29 and 23 tons, respectively, for the upstream and downstream ends. To facilitate loading and placing, four lifting stirrups formed from U-bolts, each 1½ in. in diameter, were placed in each section. Considerable care was necessary while the culvert was being transported, since the overall width of 12 ft. exceeded the maximum width allowed by the clearance diagram for the road.

How the Work Was Done

Removal of the old structure began at 8:30 a. m. and the installation was completed at 6 p. m., with no interference with trains. Single-track operation was maintained during the progress of the work, traffic being shifted after the first track was completed. At the bridge, water flows from east to west, and the flow was relatively small at the time of the installation, which occurred during the latter part of March. This made it possible to divert the stream to the new pipe culvert about 300 ft. south of the bridge. Accordingly, preliminary work at the site of the bridge included the clearing of a channel to the culvert and the construction of a diversion dam at the east end of the bridge to force the water south to the other culvert. This permitted the excavation of the stream bed and the necessary preparation to receive the culvert sections to be carried out without interference from water. In addition, a small gasoline-driven pump was sufficient to keep the foundation area dry during the progress of the work. A locomotive crane equipped with a clamshell bucket was used in making the excavation.

As soon as the track was cleared, the northbound track was cut and a 200-ton wrecking crane removed the deck of the old structure at a single lift. The locomotive crane then completed the excavation and the bed was leveled off to receive the first section. This section, and the remaining ones as well, was placed by the wrecking crane, which used an equalizing beam, to which four cables were attached, for making the lift. Each cable was provided with a hook which fitted into the lifting stirrups in the culvert section. As soon as the box section was in place, the flaring-wing section was placed and the joint between the two sections was waterproofed.

In removing the old wooden bridge, only the deck was pulled out. The pile bents which acted as abutments for the opening were allowed to remain for the purpose of retaining the fill until the new structure had been placed, thus reducing to the minimum the amount of backfill that was necessary. It was possible to do this because the original span was 12 ft. 6 in., while the overall width of the precast sections was 12 ft. This made a close fit for lowering the track sections of the new culvert into place, but despite the small clearance they were placed without difficulty. As soon as the placing of those two sections was completed, the backfill around the box was placed and tamped and sufficient ballast was unloaded to restore the northbound track, which was relaid and made ready for service.

Traffic was then shifted to the northbound track, the southbound track was cut, the timber deck for this span was also removed as a single unit by the wrecking crane and the procedure which has been described for the northbound track was repeated for the southbound track. As soon as the necessity for using the cranes had passed, the pipe railing was installed on the parapets of the culvert, which were cast integral with the barrel sections, and secured by anchor bolts which had been set in the concrete.

It is of interest that since this culvert was placed, several severe rains have occurred that not only overtaxed the capacity of a number of established openings in the immediate vicinity, but delivered an unusual volume of flood water in the channel at Bridge 80. In each case, however, this opening and the pipe culvert were of sufficient capacity to pass without difficulty all water reaching them, despite the unusual volume of flow.

The plans were prepared and the work was done under the general direction of F. R. Layng, chief engineer.

Praise from a Competent Quarter

"The people of the United States owe a debt to the nation's railroads that will be most difficult to repay. After virtually relegating them to the status of a stepchild, they called upon the railroads immediately after the attack on Pearl Harbor to supply most of their transport needs. Accepting the task, the railroads last year did the greatest transportation job in the history of this or any nation.

"Having emerged from a ten-year period of poor business, the railroads were not well prepared for such a gigantic job. After reporting net deficits for four of those years, many were in bankruptcy proceedings. The fact, however, that the volume of freight handled last year was one and one-half times that moved in the First World War year 1918 showed that, despite their lean period, they had maintained their fixed plant and equipment in excellent condition.

"In their poverty of the Nineteen Thirties, the statement that the railroads were 'through' as the mainstay of the nation's transport facilities generally was accepted as an accomplished fact. Interest was centered in the development of other transportation methods. The rubber-borne vehicle and the vast network of highways would be the nation's mainstay in a crisis. Inland waterways and coastwise and intercoastal water routes would be the other principal methods.

"Under the impact of war these methods of transport did not meet the test. With the Japanese soon in possession of the source of 90 per cent of the world's crude rubber, the effectiveness of the rubber-borne vehicle in meeting the increased transport needs was greatly reduced. Submarine sinkings and the diversion of ships to war services overseas soon resulted in coastwise shipping dropping to a fraction of its former importance. Intercoastal freight traffic through the Panama Canal was suspended.

"These traffic disruptions made the nation more dependent on rail transportation than at any other period. To the railroads fell the job of maintaining a steady flow of materials to war industries and then moving the weapons they produced to ports and training centers. Millions of men in the armed services had to be transported and essential civilian transport needs had to be met. The railroads have handled this enormous volume of traffic with remarkable efficiency.

"Billions of dollars are being spent by the Government to expand other industries, but the railroads have done their war job well without any outside assistance. Furthermore, they have contributed liberally, through taxes, to Government expenditures. James J. Pelley, president of the Association of American Railroads, recently estimated that railroad taxes in the twelve months ended with October amounted to the unprecedented sum of $1,077,000,000, the equivalent of revenues derived from fifty-six days of operation."

—From the New York Times.

Railroad Opinions on Regional Rate Argument

THE railroads have made known their opinions on the hotly contested question of differences in rates and classifications, especially in interterritorial rates, among the several territories—in memoranda filed with the Board of Investigation and Research, which has this highly political question under examination. The railroads' views have been set forth in separate expressions by the Eastern, Western and Southern lines—that of the Eastern roads being the latest to be filed.

The memorandum of the Eastern Traffic Executives' Association, which is subscribed by E. H. Burgess, chairman, surveys the various possibilities of arriving, by current statistics, at a satisfactory comparative figure of intraterritorial rates, and concludes that it cannot be done. Perhaps, it is suggested, this information might be obtained from the traffic study the Research Board is now assembling. That study may also yield information on the nature and volume of interterritorial traffic. A number of I. C. C. decisions are cited in support of the general conclusion that higher class rates in the South and West are offset by commodity rates in those territories at lower levels than in the East.

J. G. Kerr, chairman of the Southern Freight Association, is quoted as testifying in 1939 that "while they talk about our rates being 39 per cent higher, that applies only as to first class. You are rarely told that our rates on logs, lumber, lime, pulpwood, coal, coke, brick, crushed stone, sand and gravel, cotton, cast-iron pipe, iron ore, phosphate rock, fertilizer, cement, pig iron, scrap iron, livestock, hay, and some other commodities, are either lower, approximately the same as, or but little higher than those of the northern lines."

Commodity Rates Compared

An exhibit by Dr. Ford Edwards of the I. C. C., offered in the Commission's investigation No. 28300 on November 6 at Columbus, is cited for evidence of the percentage of Eastern rates which are levied in the West and South for the movement of identical commodities. A considerable number of such commodities are shown with rates at substantial ratios lower than such rates in the East. Thus, rice in the South pays less than 88 per cent of the Eastern rate and petroleum products less than 62 per cent. In the West, forest products pay 81 per cent as much as in East and sugar beets only 19 per cent as much. These rates, however, include interterritorial traffic.

The Eastern lines' memorandum reminds the Research Board that, originally, rates were entirely local—and that the earliest interterritorial charges were, simply, combinations. In all cases, rates have been constructed with an eye toward stimulating the traffic on which they apply—due consideration being given to local conditions. Principal exceptions to the combination rates were (1) joint rates between the North Atlantic seaboard and the Southeast, (2) joint rates between Illinois and Central origins and Mississippi Valley prorating points, (3) export and import rates between Central territory and Gulf and South Atlantic ports, (4) transcontinental rates. These rates were established to meet competition —either inter-railroad; or between the railroads and water carriers; or between different areas of production.

A Commission summary is quoted, which relates the history of East-South interterritorial rates. The first extensive communication between these two sections was by a rail-water combination (i. e., coastwise vessels, served at either end by railroads). The all-rail routes, which developed later, had to meet the rates of these combinations. Relatively low rates because of this condition extended as far inland as Buffalo and Pittsburgh. Meantime, rates from Central territory into the South were a combination of local rates—a condition which caused dissatisfaction as Central territory grew in industrial importance, competing with the East.

Competitive Forces Vary Geographically

The competitive force which induced the application of blanket rates in Texas and group rates in other sections are set forth, with the observation that "the level of rates on a commodity in one territory is not necessarily persuasive of the level which should apply in another territory where rate-making considerations are different." The action of the I. C. C. in the Southern Class Rate Investigation, the Consolidated Southwestern Cases, Western Trunk-Line Class Rates and the Eastern Class Rate Investigation is then reviewed, and attention is drawn to the changes which decisions in these cases wrought in interterritorial rates.

On the subject of cost as an element in rate-making the Eastern lines' memorandum contends that it is impossible accurately to determine costs and, even if found, it would be impracticable to base rates upon them. Competitive conditions and ability to pay must also be considered—and, in addition, the necessary condition that the rate structure as a whole provide the carriers with sufficient revenues to carry on their service efficiently. The Eastern lines' assert that "there is frequently a lack of recognition of the necessity that traffic which can reasonably bear more than its share of costs should assist traffic which cannot bear its full share." It is further stated that the application of identical class rates and classifications in the several territories "might naturally be expected to force counter-balancing increases in rates on such commodities as could bear them in order to afford revenues necessary to maintain the carriers. Such an adjustment, while supposedly more symmetrical in form, might defeat its purpose and retard the flow of such commodities."

The ease of using cost as a basis of rates in such one-commodity service as gas or electric power is contrasted with the complexity of applying this basis to a multi-form, competitive business such as railroad transportation.

Dr. Edwards' regional cost indices in the No. 28300 investigation are presented, wherein New England is given an index of 143 in the cost of hauling 25 tons in a box car for 300 miles, the South of 94, and the East including New England and Northern Illinois 103 (100 being the nation-wide figure). The method of arriving at these figures is reviewed in critical detail and the conclusion reached that, actually, there is little difference in costs between Southern and Official territories. Dr. Edwards is quoted to the effect that in the 1936-41 period, the rate of return (non-operating income excluded) of the Southern roads was slightly higher than that of Eastern lines.

Rate Changes Should Follow Traffic Development

Differences in regional rates on specific commodities being occasioned by the varying status of the same commodity in different regions, the memorandum contends that differences in the *all traffic* rate level from region to

region (railway earnings not being excessive) "would merely represent the necessary cost of maintaining adequate service." Changing conditions in a region might bring more favorable revenue results from a given rate level—in which case it might be modified, "but such changing conditions should themselves be the justifying cause of the general rate changes, rather than the resulting effect of rate reductions having no other justification than the speculative anticipation of such possible effects."

"Destination Level Theory" Opposed

The Eastern lines do not believe that interterritorial class rates on the Official level can be justified unless class rates within the territories are also on the same level, are subjected to the same classification ratings, and equal bases of divisions are applied to regional carrier groups. The principle of making class rates the same in both directions is defended, but the "destination level theory" is opposed as a "mere excuse" to "favor shippers in one territory against those in another." The support of the Southern lines of this basis, and their assertion that equalizing northbound and southbound rates would "bankrupt" them, is characterized as "much overdrawn."

The presentation of the Western roads was made last June by J. A. Farmar, chairman of the Western Traffic Executive Committee, as noted in the *Railway Age* of June 13, 1942, page 1147. Since that time, J. G. Kerr, chairman of the Southern Freight Association, has submitted the views of the Southern roads, which were made public by the Board last week. The Southern roads take the general position that no fixed rule can be applied in the making of interterritorial rates, for different conditions require different approaches. In other words, "the making of freight rates is a practical matter and not one of theories or fixed formulae."

Before getting into interterritorial rates themselves, Mr. Kerr suggests that the Board should first determine the "fundamental" questions of whether or not the industrial development of the South has in fact been retarded; and, if so, whether the lack of development has been due to interterritorial freight rates. The Southern roads think there has been no lack of development in the South as compared with other sections; on the contrary Southern manufacturing has in recent years "increased by leaps and bounds." And the Southern roads have received no shipper complaints indicating the existence of any general dissatisfaction with the measure of their rates or the method of construction.

Present Rates Move the Traffic

Asserting that interterritorial rates "should be, and are at present, made on bases which enable commodities to move freely," Mr. Kerr went on to say that the Southern railroads "have never advocated the destination level for uniform or universal application." That basis is, however, "of great importance" which respect to many articles manufactured in the South which "are sold in Official Territory in competition with like articles manufactured within that territory." On the other hand, many commodities produced in the South "are not produced to any appreciable extent within Official Territory," and they meet no "local competition" in Official Territory. Here "the destination level is of no importance and the main thing to be considered is the intrinsic and relative reasonableness of rates from all producing sections to Official Territory."

Southern roads are more interested in rates between Southern and Official territories than in other interterritorial rates because of the heavy traffic between the North and South. Because of the lower intraterritorial basis within Official Territory, it has been "recognized" in the past, as Mr. Kerr put it, "that the Southern manufacturers generally must have rates to Official Territory approximating the level within that territory if they are to market their products therein in cases where there is active competition with manufacturers located north of the Ohio and Potomac rivers." And their contention that with respect to this class of traffic "the principal guide . . . should be the destination level," is supported "by many expressions of the Interstate Commerce Commission."

With respect to southbound rates from Official to Southern territory, the Southern lines "as a general proposition insist" that these, too, be on the destination basis, i.e., they "should not be lower relatively than rates for corresponding distances within Southern territory." Otherwise, the Official Territory shippers would come into the South on a rate level "generally lower than the level within the South"; while the Southern roads would be unable to put their intraterritorial shippers on the same basis without going bankrupt. This idea of different rates in different directions between the same points, Mr. Kerr says, is neither "new, novel, nor unlawful," and it has been "approved by the Interstate Commerce Commission."

"Destination Level Theory" Defended

Coming to the rate adjustment between Southern and Southwestern territories, Mr. Kerr points out that the rate level in the former is "on the whole lower" than in the Southwest. Yet, the Southern roads "have and expect to continue to join the Southwestern lines in rates to the South on commodities shipped from the Southwest in competition with like commodities produced in Southern Territory on the general level of rates which prevails in the South." In other words, Mr. Kerr went on, "the Southern lines accord the Southwestern lines and shippers the same rights which they insist upon for Southern lines and Southern shippers with respect to rates to Official Territory."

From the South to the Southwest "a somewhat different problem" arises; and the Southern roads believe that as a general proposition rates into the Southwest from both Southern and Official territories should be on the destination basis. As to some commodities produced in Official and Southern territories, which are shipped to the Southwest, with the rates from Official Territory lower than the destination level, the Southern lines "insist on rates in line with rates from Official Territory."

In concluding his presentation, Mr. Kerr emphasized the Southern roads' view that no legislation is required to deal with the interterritorial rate situation. In that connection he subscribed to the like suggestion in the National Resources Planning Board's recent report on "Transportation and National Policy" which said that "further legislative treatment" of the matter "appears inadvisable," and called upon interested parties to "lend their co-operation to the Interstate Commerce Commission in order that a fair solution may be sought in an objective and dispassionate spirit."

"There is no art which one government sooner learns of another than that of draining money from the pockets of the people."—Adam Smith.

Railway Purchasing Agents Discuss The Material Situation

Voice uneasiness over lumber, ties and coal and urge closer study of new regulations at New York Club—Post-war prices and problems considered

THE conclusion of the war will be followed by a decline in railway buying brought about in part by wartime prices, but this decline will soon be reversed by competition among new enterprises for railway business and by vigorous railway programs to intensify the improvements which were halted by the war. In the meantime, a great deal more must be done than has already been done by the railroads to relieve the acute shortage of lumber and cross ties; coal production must be increased and the railroads must do a better job in familiarizing themselves with the regulations over materials and in anticipating their material requirements. These were among the observations made by railway purchasing agents at a Purchases and Stores night held by the New York Railway Club on January 21. Speakers at the meeting, which was in charge of F. S. Austin, purchasing agent, New York Central, were J. S. Fair, Jr., purchasing agent, Pennsylvania; J. E. May, fuel agent, Baltimore & Ohio; C. E. Smith, vice president, New York, New Haven & Hartford; and M. E. Towner, general purchasing agent, Western Maryland.

C. E. Smith traced the struggle of the railroads in obtaining equality with other consumers in the distribution of materials and stated that the War Production Board, as well as the Office of Price Administration and the Office of Defense Transportation, is now manned with competent railway men experienced in maintenance of way and equipment. "In dealing with the Transportation Division of WPB," he said, "we are dealing with friendly, sympathetic, understanding home folks, who sometimes understand us better than we do ourselves." The interests of the railroads are being so well handled by men with railway backgrounds and sympathies that railway supply officers should keep away from Washington, he stated. He predicted, however, that the railroads will be confronted with more material shortages and that concentrated attention to specific orders will be necessary to minimize interruptions in maintenance and repair work.

M. E. Towner said that recent tie regulations favor large contractors at the expense of the small tie producers, and advised the railroads to take early and aggressive action to overcome the serious shortages that are developing in railroad timber and ties.

Bituminous coal at the present high rate, J. E. May explained, has created more of a load than some mines can carry, and this situation is being aggravated by the growing shortages of manpower. The only solution of the difficulty, he stated, is to increase the hours of work. He predicted serious results if the miners go on strike in formulating new wage contracts next April.

J. S. Fair expressed the opinion that many of the material standards which are now being adopted uniformly by railroads have come to stay, but that there will be a post-war rush to new specifications when new experimentation gets under way, and he forecasted active competition by old and new suppliers for railway business. The addresses were in part as follows:

Future Problems in Railroad Purchasing

By J. S. Fair, Jr.*

The substitution of less or non-critical materials for essential war materials was one of the first things the railroads did toward the war effort. Cast iron replaced cast aluminum and brass. Black steel displaced tin plate. Silver is even doing the job for copper in some electrical circuits. Boilers originally calling for alloy steel plates have been redesigned to use carbon steel. These substitutions were made purely as war measures but some of them have had interesting results. Certain new items are doing a good job, and a few old ones have been improved materially in serviceability.

New Materials in Prospect

The war has stimulated the production of materials which several years ago had just begun to make a mark on the public consciousness. Plastics, synthetic rubber and formed plywood are new materials in this sense; but there are many others, such as certain chemicals and alloys which are topics of everyday conversation in the laboratories and plants turning out tools of war. When the war has released these materials, there will be a whole new field for ingenuity in finding uses for them on railroads as well as in other industries.

The War Production Board has made AAR and ASTM specifications practically mandatory for the important metals. This has helped war production and we are finding that we can get along. Post-war adherence to these or another common specification will depend largely on the manufacturers' ability to make it advantageous for the railroads to comply. Common specifications for all railroad buyers present the possibility of lower cost and better delivery than individual specifications. Compulsory universal specifications for all, however, might have a limiting effect on research and development. This is particularly true when new materials are coming along. Hence, it is to be expected that while there will be more uniformity of specifications for the old railroad items, there will be a post-war rush to new specifications where experimentation is in progress.

As with specifications, it takes an upheaval equivalent

* *Purchasing Agent, Pennsylvania.*

to a war to accomplish much in simplification and standardization of the shelf or supply house items. It hardly seems possible that a fireman on a railroad in the middle west must have a scoop of different shape than a fireman in New York; yet each was getting his own custom built shovel until the war said no. Individuality can be lost by overdoing simplifications; but the railroads will gain an immense advantage in price and delivery if they will stick to standard sizes and designs of the everyday items.

Many New Suppliers

There are a lot of new letterheads in our files from companies that have done a fine job in helping us maintain our roadway and equipment. Some are selling us wartime substitute materials, while others are furnishing requirements which old suppliers have not been able to produce. Some manufacturers long in our purchase records have dropped out of the list to make parts for tanks or planes, and other old companies that were minor factors are now furnishing substantial amounts of materials because they are able to make the necessary deliveries. When the war is over, we will have a real opportunity for intelligent buying, together with the ever-present problem in tact and fairness when our business is again essential or interesting to all manufacturers. To the list of familiar names and new wartime companies will be added those which are making the new materials we cannot yet have but which will be anxious to establish peacetime markets.

Prices and Purchases

Shortly after a war, there is an unprecedented demand, followed by an abrupt reaction. Prices have followed the lead of demand under those circumstances. All the causes of this train of events are present now as they have been in the past—pay is good, non-essential war work is being deferred, luxuries are taboo. A huge reservoir of buying power in peacetime is accumulating, but there is a new element in the form of government control which must be reckoned with but cannot now be predicted.

There is another factor so far as the railroads are concerned. Before the war they had a lot of new ideas for improvements of service in the early formative stage, but after the war they probably will not rush into wholesale buying of equipment. It would be expected that there would be a pause to take bearings—to see what marked changes are brought about in market areas and production centers as a result of the war. A further retarding factor will be the disposition of war surpluses, but this will probably be spread over a considerable length of time and affect only selected commodities. In spite of these considerations, it would be logical and, as in the past, natural for prices to rise for a time after the war.

The period of high prices will call for canny buying and intelligent storekeeping by the railroads. They will not want to pile up an inventory of expensive materials, and yet they will need considerable quantities of maintenance materials to repair equipment that has run like it never ran before. When the general buying power is expended and normal purchasing is resumed, expanded productive capacity and competition among sellers should bring prices down. By that time, perhaps the railroads will be needing material for modern or experimental equipment and new materials will be vieing with improved old ones to get the job. The railroads have always been outstanding as an industry in the reclamation and conservation of materials. They are doing more of it than ever today; and while some current practices are impractical for peacetime, it is to be expected that a lot of them are here to stay.

Lumber and Cross Ties

By M. E. Towner*

It was hoped that the government's requirements might decrease to some extent in 1943. Some advices were that the government would soon be out of the market. However, the War Production Board has taken complete control of production and distribution of certain lumber, mostly softwoods; a Central Procurement Agency has been established in Portland, Ore., under the direction of Corps of Engineers, U. S. Army, to handle all government purchases, and WPB has an office in Portland to administer the distribution of fir lumber. Railroads cannot purchase West Coast lumber unless a release is obtained from WPB.

As an indication of the tightness of lumber, however, one eastern railroad tried for nearly five months in 1942 to get quotations on a fir schedule. Finally, WPB suggested that orders be placed direct, without competition, at ceiling prices, and they would issue proper release. The orders were finally placed early in December, 1942, but no advice as to acceptance and shipment has been given. The material was for bridge and trestle repair and maintenance. A large southern railroad has had released only 143,000 ft. bd. m. out of orders for over 5 million feet of bridge and trestle timbers. Experience indicates that releases on Form PD-423 (lumber for car maintenance and repair) can be obtained much more quickly than releases for bridge and trestle timbers. Railroads having orders placed some months back at lower than ceiling prices, report having considerable difficulty in securing their material; and it is doubtful if shipments will be made at less than ceiling prices and unless the lumber is re-ordered. Very little difficulty is being encountered with southern yellow pine car material, although heavy timbers are frozen and can only be obtained on release from the WPB, Washington, D. C., office.

A Lumber Shortage

The War Production Board has estimated that total 1942 lumber production was 40.2 billion feet, but with the labor shortage and the difficulty in obtaining sawmill and automotive parts and equipment, the 1943 production figure will probably not exceed 30 billion feet. Against this, the estimated requirements for 1943 are 32 billion feet. This indicates that there will be plenty of difficulty for railroads in obtaining lumber in 1943. The Western Maryland operates in a district producing considerable hardwood lumber and thus far has been successful in securing its requirements of car and engine oak, bridge and switch ties and like lumber and some timbers from on-line producers, but the prospects for 1943 are not at all promising.

Cross Tie Outlook Bad

Prior to the action of the Office of Price Administration in publishing General Maximum Price Regulation, Bulletin No. 1, the railroads had little difficulty in ob-

* *General Purchasing Agent, Western Maryland.*

taining cross ties. On May 11, 1942, General Maximum Price Regulation, Bulletin No. 1, became effective. This regulation established ceiling prices for cross ties at the sellers highest March, 1942, prices. This created at once an impossible situation in that it actually established in the same production areas more than one price for the same cross tie. At first the railroads had no recourse, but were soon granted petition and some few were allowed to pay their producers an equalized price.

On September 5, 1942, Maximum Price Regulation No. 216 (railroad ties) became effective. This provided for the establishment of a buyers price or equalization so that all buyers in a given production area would be paying substantially the same price. This regulation proved to be very cumbersome in administration in that each railroad, wishing and believing it necessary to increase its prices from those applying in March, had to file an apeal for approval by the Office of Price Administration. Over 150 applications were reported to be on file at one time. Revised Maximum Price Regulation No. 216 (eastern railroad ties) became effective December 26, 1942. This attempts to establish maximum prices for all sizes and classes of railroad ties, mainly in accordance with AREA specifications by zones, and has divided the country into eight zones, excluding, however, the far west, which is governed by Maximum Price Regulation No. 284 (western primary forest products).

Production Declines

While the urgency and necessity of the war effort in the construction of war plants, shipyards and cantonments is recognized and the effect of purchases of ties for these purposes somewhat discounted, cross tie production, since the issuance of General Maximum Price Regulation, Bulletin No. 1, in May, 1942, has, according to reports received, decreased at an alarming rate. Production on one eastern railroad in December, 1942, for example, was 15 per cent of the production in February, March and April, when production was commensurate with requirements. The majority of railroad ties are treated and should therefore, in the main, be produced 10 to 14 months in advance of use to assure proper seasoning and distribution.

Prices Out of Balance

The general price situation, as now in force, holds railroad cross tie prices down to a relatively low level compared with lumber prices. In Maximum Price Regulation No. 281 (Navy oak ship stock), effective December 14, 1942, prices for material produced from the same class of timber from which cross ties are made range from $75 per 1,000 ft. bd. m. to $65 per 1,000 ft. bd. m. for white oak, with mixed oak prices 87 per cent of white oak prices. Cross tie prices in Office of Price Administration, Zone 3, and described in the revision of Maxmum Price Regulation No. 216, range from $32 per 1,000 ft. bd. m. for the grade 5 tie, to $38 per 1,000 ft. bd. m. for grade 1. This differential between cross tie and lumber prices is far out of line with standard differentials maintained over a period of years.

Price, however, is decidedly not the only factor which should be taken into account, nor is it today the main factor. Other factors in the tie problem are the scarcity of labor, resulting from the drafting of sawmill labor for the Army and higher wages being paid in war and related industries; difficulty in obtaining sawmill and logging equipment; scarcity of gasoline; difficulty in maintaining trucks and inability to get new ones; rubber tire shortage; heavy demand for all classes of lumber by the Army and Navy departments; high prices being paid for lumber and timbers by shipyards and contractors engaged in government work. Unless and until these factors are brought under control, the railroads will suffer the loss of a very large proportion of cross tie production which they actually need and must have for the maintenance of their tracks in an essentially safe operating condition.

Revised Maximum Price Regulation No. 216, effective December 26, 1942, according to the present interpretation, sets up dollars-and-cents prices by territories; divides producing territories into eight zones; and encourages greater activity by tie contractors through allowing railroads and other ultimate consumers to pay them up to 20 cents per tie and $5 per 1,000 ft. bd. m. for switch ties more than so-called ceiling or published prices. Unquestionably the contractor has, particularly in some territories, a decided place. There are other territories, however, which can be and should be handled by direct purchases through the small producers. Yet the present order, in all territories, places the contractor in the saddle.

Par. 1426.2 (b)(2)(ii) of the regulation states that during one calendar month of any of the 12 months preceding October 1, 1942, he must have either purchased or produced on direct orders from users not less than 40,000 bd. ft. (10,000 pieces) of eastern railroad ties. Par. 1426.2(b)(2)(iii) adds that during the entire 12 months preceding October 1, 1942, he must have successfully fulfilled a contract for the supply of at least 2,000,000 bd. ft. (50,000 pieces) of eastern railroad ties to a single user. Par. 1426.3(c) (tie contractors) provides an addition of 20 cents per tie for eastern railroad cross ties and $5 per 1,000 ft. bd. m. for eastern railroad switch ties may be made to the maximum prices specified in Appendix A, by a tie contractor, as that class of seller is defined in the regulation provided that this addition may be made only once. This situation is having the effect of discouraging the small producer and probably will continue to have the same effect. Any railroad, particularly in the territory with which I am familiar, which has obtained its production at least 90 per cent from those producing less than 10,000 ties per year, with 175,000 to 200,000 ties to be produced may find itself restricted to a one or two-contractor method and then, if history repeats itself, will find that there must and will be a shortage compared with its previous method.

If the present difficulties involved in prices and distribution of lumber and ties continue much longer, the railroads will have to take some further positive, aggressive action to obtain their requirements. Knowing their sources of supply, minimum requirements and the reason or reasons for not obtaining them, the railroads should be able to state their case clearly.

Priorities and the Controlled Material Plan

By C. E. Smith*

The priority ratings under which railroads are now operating are probably the best that we can expect under all conditions. They are realistic and recognize surrounding conditions. They have been improved continually as their value decreased by being topped by new

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higher ratings granted others. It would be less than fair not to state that they are being well administered. Properly administered, they insure as adequate a supply of materials for operation and maintenance as can be expected. The supply will be adequate and satisfying only when superior military needs do not require the materials. Then we must learn to use substitutes or get along without the materials. The number of new freight cars and locomotives to be built can no longer be decided by each railroad for itself; and neither can it be decided by the needs of all the railroads for an estimated number. The criterion is where the materials can be used most effectively—in building more freight cars or in building tanks, guns, ships and planes. That can only be decided by a government board with responsibility for over-all planning.

Paper Work Okay, If It Produces Results

Purchasing departments do not complain about the volume of work thrown on them by government control of material deliveries, provided only that they get the materials. Preparation of PD-1-A and PD-200 applications for approval with supporting data is admittedly quite a task and the quarterly preparation of Form PD-351 for critical materials is a severe job. There is compensation, however, when these come back with favorable ratings and the door is not closed for filing of supplementary forms to correct omissions and reductions.

The realistic attitude of stores departments toward safe inventories has carried us over many steep grades while we have struggled to keep materials coming as fast as they are being used. We will, however, be confronted with more serious material shortages and inventories of critical materials must be watched as never before. Concentrated attention to specific orders will be necessary to minimize the interruptions we are unquestionably going to experience in maintenance and repair work.

Purchasing departments of railroads must now have one or more specialists on AAR, WPB, ODT and OPA procedures and forms to keep posted on government requirements, see that forms are properly filled out, that reports are prepared correctly and filed on time and that needs are foreseen sufficiently far in advance to leave time for the many steps that must be taken. Orders and schedules must be checked and rechecked frequently.

The first priority was P-1, effective March 12, 1941. In the last list, the top number was P-138, effective December 24, 1942. More than half of these priorities affect railroad materials. The first industry-wide material control in the M (raw materials control) series was M-1, effective March 22, 1941. In the last list, the top number was M-272, effective January 4, 1943. Over half of these orders concern railroads. Limitation Order L-1 was effective August 30, 1941. The list of these orders now ends with L-244, which describes the procedure to be followed in making clothing for men and boys. More than half of these orders affect the railroads.

The Volume of Priority Regulations

Priorities Regulation No. 1 was effective August 27, 1941. A total of 16 such regulations had been issued up to October 15, 1942, all of which affect railroads. Price schedules started with No. 1, effective March 1, 1941. These schedules have reached No. 272, effective November 23, 1942, which lowered prices on cast iron boilers and radiators, and fully three-quarters of the schedules affect railroad materials. Printed legal forms to be used in connection with material control run from PD-1-A to PD-717. Some intermediate forms have been superseded and cancelled, but a large number of the forms must be used by railroads. In addition, various forms must be used for materials that are rationed, including sugar, coffee, oil and rubber.

Railroads are now securing materials for maintenance and operation under Preference Rating P-88 and the Production Requirements Plan. For materials not on the critical list, the railroads have been entitled to apply A-1-j and A-8 priority ratings for their supplies. For other materials, principally all articles of steel, copper, etc., comprising Material List No. 1 of over 300 items, the railroads have submitted to WPB on Form PD-351, before the middle of each quarter, for each item as to the quarter last past and the next coming quarter the inventory at the beginning of the quarter, the quantity received during the quarter and used during the quarter, the inventory at the end of the quarter and the requirements for the next quarter.

A copy of Form PD-351 is returned to each railroad endorsed with the priority rating that may be applied during the ensuing quarter for the quantity of each item allowed by the Division. Recognizing that there are human frailties, even among purchasing agents, the Division holds back 5 or 10 per cent of the amount authorized and will accept supplemental applications at any time during the quarter for materials, the need of which was overlooked or required because of unexpected emergency or exceptional increase in traffic, for which heretofore satisfactorily high ratings have been issued. Priority ratings AA-1 have been authorized currently on this form. Last August AAA was authorized for all outstanding orders for materials for the repair of locomotives.

Controlled Materials Plan

The Controlled Materials Plan is the next step beyond the present PRP and blanket preference ratings. Up to now the agencies represented on WPB—now termed Claimant Agencies for materials that are available—were the Army, Navy, Air Forces of both Maritime Commission, Lend-Lease, Board of Economic Warfare and Office of Civilian Supply. There has been some criticism that the railroads and some other industries that are vitally essential to the war effort could not be represented adequately by the Office of Civilian Supply, which included all non-defense industries. As a result, the Controlled Materials Plan provides for additional Claimant Agencies representing the National Housing Agency, the Office of Rubber Director, the Petroleum Administrator for War, the Food Administrator, the Facilities Bureau of WPB and the Office of Defense Transportation. Each claimant agency will act as proponent of its own and may criticize the requirements of others. The requirements committee will decide what each is to have.

As applied to railroads, which do not produce goods but use materials and equipment in maintenance, operation and improvements, the requirements at the start call for reports by quarterly periods. Railroads must submit, prior to February 1, their requests for allotments of controlled materials on Form PD-351, covering their anticipated requirements for the second quarter—April, May and June. At the start the materials are all products of carbon steel, alloy steel, copper and copper base alloys and aluminum. Other materials will be added as necessary. In the meantime, other materials will be secured as at present. The materials must be listed in the

order and with code numbers as instructed. Amounts are shown in net tons and pounds. The amount of each used in the third quarter of 1942 and inventory September 30, 1942, must be shown; then follow the anticipated use and desired receipts from mills, foundries and other sources of supply, separated by months if not desired uniformly during the quarter. Not later than April 15, similar requirements must be submitted for the third quarter of 1943 when the plan will be mandatory, being more or less permissive at the start.

Strict Inventory Control

It is reported that in time all our materials will come under CMP and blanket preference rating P-88 will be cancelled, but it does not appear that it can be cancelled in the near future. It is understood that controlled materials will be purchased on monthly allotments, and it is contemplated that the vast majority of materials with allotment numbers of any month will be delivered in that month. When the plan gets working smoothly, there will be rigid inventory controls, reducing inventories as low as 60 days in some instances. As a 60-day inventory of controlled materials would appear to be unworkably low in railroad operation, it may be expected that a longer period may be allowed, at least at the outset. If the 60-day provision should be insisted upon, however, closer attention than ever before will have to be given to placing and following up orders by railroad purchasing and stores departments and to the production and delivery by railway supply companies.

To handle its new work as a claimant agency, ODT has created a Division of Material and Equipment Requirements. The function of this division will be to gather from other divisions of ODT and other sources estimates of the requirements of domestic transportation for materials and equipment; to compile these estimates into an over-all integrated domestic transportation requirements program; to prepare the program for presentation to WPB; to arrange, with the advice of other ODT divisions, proper allocations of materials and equipment in accordance with WPB's determination and allotment of the program's requirements; to arrange for the necessary implementation, so that materials and equipment may be forthcoming in accordance with approved schedules; to represent ODT on the various WPB Industry and Material Division Requirement committees; and to act as liaison between ODT and all government and private agencies on matters concerning material and equipment requirements for which ODT is claimant agency. It is not yet clear how this division and the Transportation Equipment division of WPB will handle all details.

The railroads are doing the greatest transportation job of all time. It would be regrettable if their excellent performance to date should be marred by too rigid rationing of their material and equipment needs. Reasonably satisfactory results have been secured to date, except possibly in the number of new locomotives delivered. Differences of opinion as to the number of locomotives needed should be resolved on the side of too many too soon rather than too few too late.

TRANSPORT IN FRENCH MOROCCO.—The Central Bureau of Transport of French Morocco has grouped and organized road transportation in the effort to fully utilize all available resources. Railroad capacity has been greatly increased and all transportation lines paralleling the railways have been eliminated, according to a report in the Foreign Commerce Weekly. Caravans of camels, donkeys and mules are being used to an ever-increasing extent to alleviate the transportation problem arising from shortages of fuel and lubricants for trains and trucks.

New Books...

The Steam Locomotive. By R. P. Johnson, M. E., chief engineer, The Baldwin Locomotive Works. Published by the Simmons-Boardman Publishing Corporation, 30 Church street, New York. 502 pages, illustrated. Cloth bound. Price, $3.50.

This book contains a wide range of information, including bases for locomotive proportioning, data concerning operation and testing, and an extensive study of motive-power economics. It should be a useful reference for engineers, railway officers whose responsibility includes general supervision of motive-power selection and performance, supervisors interested in locomotive operation, and students of motive-power performance, both young and old. The author makes no claim to the originality of any of the material in the book; much of it was scattered through periodical literature and treatises dealing with restricted aspects of the steam locomotive or its use until he brought it together. There are 26 chapters. Roughly, these may be divided into three groups—those which deal with the locomotive and its performance; those which discuss conditions outside the locomotive affecting its performance, and those on various aspects of motive-power economics. In the second group are Chapters on Locomotive Fuels, Water for Boiler Use, and Curves. The chapter on water is a concise treatise on the selection and treatment of boiler feedwater and includes a discussion of caustic embrittlement phenomena.

Particularly worthy of mention are the chapters on High-Speed Trains, Streamlined and Lightweight Trains, and Motive Power for High-Speed Service. The second of these deals effectively with the relative economic value of weight reduction and streamlining under various conditions. In a chapter on Resistance, locomotive streamlining is also discussed. The motive-power chapter, among other phases of the subject, compares the characteristics of steam and Diesel locomotives, including operating costs, as does also the chapter on Motive Power for Switching Service. Three chapters at the end of the book are devoted to motive-power economics. These are The Relation of Locomotive Operating Expense to Net Operating Income, Locomotive Repair Costs, and Economic Life.

Not to make some reference to the bulk of material which is devoted to the steam locomotive and its operation would throw the scope of the coverage of the book considerably out of focus. It does not deal with boiler design, nor with the design of other details. There are, however, extensive chapters on combustion and evaporation. Chapters in which are included current data not customarily available in handbooks are those on Tractive Force, Horsepower, and Counterbalancing. Generally speaking, in the field of locomotive proportions and performance it contains much data and information which is directly related to modern practice. The treatment throughout is essentially practical.

Trains Albums of Photographs. Four books of 24 pages each. 10¼ in. by 14 in. Bound in paper with ring binding. Published by Kalmbach Publishing Company, Milwaukee, Wis. Price, $1 each book.

Those who collect photographs of locomotives and railway operating scenes will find a large and varied assortment in these four albums of half-tone engravings. Book I covers the Eastern railroads; Book II, Far Western railroads; Book III, Midwestern railroads, and Book IV, Colorado railroads. A foreword accompanies each album and reviews the characteristics of operation of the railroads shown in it. The photographs vary in size, some being page-size, and the smaller ones averaging three or four to the page. The photographers, some of whom have contributed specimens of their work to the *Railway Age*, have captured the lure and romance perceived in modern railroading by a growing company of discerning people—laymen and railroaders alike. The albums are printed on one side of the page only on highly-glazed paper. Because of the ring binders the pages lie flat when opened. This method of binding also makes removal of the pages easy for those who wish to frame the pictures or clip them for scrap books.

Railroads-in-War News

Big Jump in Troop Travel by Railroad

Gross reveals that it has recently been three times that of Jan., 1942

More than three times as many troops were carried by the American railroads in the first half of this month as in the corresponding period last year, Major General Charles P. Gross, chief of the Army Transportation Corps, disclosed in a round-table radio discussion in Washington, D. C., on January 26.

Troop movements, General Gross said, have stepped up until now there are approximately 1,750,000 men traveling monthly on the railroads in organized parties. This, he added, does not include those who travel as individuals either on furlough or under orders in parties of less than 50.

During the 12 months following December 7, 1941, the General continued, the railroads handled in organized movements more than 11 million members of our armed forces, or more than were carried in similar movements in the first World War up to the time of the Armistice.

General Gross reported that so far in this war the railroads have met all the demands for military transportation "exceedingly well and to the satisfaction of the military authorities."

Congressman Clarence F. Lea, chairman of the House committee on interstate and foreign commerce, declared that besides supplying the essential requirements of the military service, the railroads are successfully taking care of civilian needs.

In doing this, Congressman Lea said, the railroads are picking up load after load which other forms of transportation have been forced by the war to put down. He pointed to the transportation of oil to the East as the most conspicuous example of this, and stated that nearly 70,000 cars and more than 1,500 locomotives are now assigned to this service.

As a result of the tremendous increase in traffic, Congressman Lea went on, the railroads are doing "the greatest transportation job in history," and are doing it "without car shortage, congestion, or delay that we could find fault with in wartime."

The big job that the railroads are doing, Robert S. Henry, assistant to the president of the Association of American Railroads, explained, "is not due alone to the railroads, or to the shippers, or to the government, but rather to the teamwork of all of them."

Predicting a "bigger and tougher" job ahead for the railroads, Mr. Henry said: "It is conservatively estimated that railroad freight traffic in 1943, as measured by ton-miles, will be about 10 per cent more than it was last year, and railroad passenger traffic, as measured by passenger-miles, will increase by possibly as much as 20 per cent. This would mean that the railroads would be handling 110 per cent more freight traffic and 185 per cent more passenger traffic than in 1939, and 75 per cent more freight business and 50 per cent more passenger traffic than in 1918."

Mr. Henry expressed the opinion that the railroads' ability to handle more traffic on top of the present record-breaking volume depends on "how much equipment will be available to move the traffic, and how much work that equipment can be made to turn out."

More than 200 Women in Men's Jobs on Long Island

The number of women wiping steam and electric locomotives at its Morris Park (Long Island, N. Y.) shops has been increased to 40 by the Long Island, which now employs more than 200 women in jobs formerly held by men. New tasks to which women have been assigned include maintenance of lanterns and the water cans which provide drinking-water for locomotive crews on the road. Other tasks performed are cleaning coaches and guarding crossings.

More ODT Orders Coordinating Highway Services

Coordination of New York-Chicago bus services operated by Northern Trails, Inc., and All American Bus Lines, Inc., has been ordered by the Office of Defense Transportation in Special Order ODT B-9, Amendment 1, issued on January 23. The plan involves suspension until May 15 of Northern Trails' services between New York and Chicago, via Breezewood, Pa., between Emmitsburg, Md., and Pittsburgh, Pa., and between Emmitsburg and Chicago, via Fort Wayne, Ind.

A couple of days earlier, ODT had issued Supplementary Order ODT 3 Revised-13, which covers a joint-action plan involving three Montana truckers—Northern Pacific Transport Company, affiliate of the Northern Pacific, Daniels Auto Freight Lines of Butte, and Flathead Transportation Company of Missoula.

Also announced last week was "the largest joint action plan in terms of the number of carriers participating" which has thus far been submitted to ODT. It involves the establishment of a clearing house by 104 common carriers of household goods in the New York City area. ODT approval of the plan is provided in Supplemental Order ODT 3, Revised-12, issued January 21.

New Record in Oil Movement Coming

Given enough locomotives, RRs may put million barrels a day on the East coast

Arrangements have been completed to manufacture 500,000 new metal drums to be used for the transportation of petroleum products, the so-called Maloney committee of the Senate was told on January 27 by John J. Pelley, president of the Association of American Railroads, who assured the committee that the railroads expect to be moving an average of 900,000 barrels of oil daily into the Atlantic coast area within 30 days.

The average all-rail movement into this district in the week ending January 16 was 818,331 barrels per day, according to an announcement from the office of Petroleum Administrator Ickes, showing a slight decrease from the preceding week's average of 822,837. Mr. Pelley informed the committee that the average over a period of months, including both good and bad weekly reports, was roughly 770,000 barrels a day, and that the increase in deliveries to an average of 900,000 would be the result of several recent developments.

While he declined to make any definite predictions as to the quantity of oil the railroads could move into the East under the more favorable weather and operating conditions that will prevail in the summer, due to the number of uncertainties involved, Mr. Pelley agreed with a committee member's suggestion that an estimate of one million barrels a day by the fall of 1943 would not be "far fetched." The factor controlling the ultimate capacity of the railroads to move oil still is the locomotive supply, he pointed out.

The best available information at this time suggests that the railroads will get about 600 new locomotives this year, Mr. Pelley said, though they have asked the War Production Board to approve the allotment of materials to build 878. With the carry-over of unfilled orders from 1942, an authorization for this number would give the roads a total of more than a thousand additional locomotives this year, but it is not likely, he explained, that the WPB will allot enough materials to carry out that program.

The recent arrival in Boston, Mass., of a 39-car train of box cars loaded with kerosene in metal drums was the first fruit of a plan for adding to the all-rail oil movement that has every prospect of favorable results, the committee was told. By using 200,000 drums loaned for this purpose by the Army and the 500,000 now being manu-

factured, the railroads' capacity to handle oil into the East coast region will be increased within 30 days by an average of 20,000 barrels a day. Answering an inquiry, Mr. Pelley said he was informed that still another 500,000 drums could be produced very quickly to be added to the 700,000 already arranged for, but it was thought best to see how well the program now under way will work out before enlarging it further. While the available box car supply probably would take care of a substantially greater movement of steel drums, the availability of locomotives and of labor might limit expansion of this means of handling oil.

In addition to the increase of 20,000 barrels a day in the average movement expected to result from the use of drums, Mr. Pelley told the committee that a recent survey of unloading facilities in the East indicated that expansion and improvements under way in this field will add about 25,000 barrels a day to railroad capacity by speeding release of tank cars.

About February 10 the pipeline ending at Norris City, Ill., is expected to be moving about 130,000 barrels a day to that point, which will increase the daily delivery of oil by tank car to the East by about 43,000 barrels a day by shortening the round trip of a large number of cars now running into the southwestern oil fields. Release of a considerable number of tank cars by substituting highway vehicles on short hauls will add another 20,000 barrels a day to the average delivered by rail to the coast. These measures altogether will add about 108,000 barrels a day to the railroads' deliveries, Mr. Pelley said, and other contributing factors, such as faster movement of empty tank cars, will help them in attaining the 900,000 barrels a day average he expects.

The War Production Board is considering a recommendation of Director Eastman of the Office of Defense Transportation that material be allotted for constructing 5,000 additional tank cars, the committee was told. A favorable decision would result in increasing railroad capacity still further, Mr. Pelley agreed, again stressing the limiting effect of the locomotive supply. The tanks cars now in service are being maintained, he added, and he does not expect that the number of serviceable tank cars will be greatly reduced while the emergency continues.

Among measures taken by federal government agencies to meet the acute oil shortages in certain areas, the office of Petroleum Administrator Ickes last week announced that large users of fuel oil for non-heating purposes in the East would have their supplies cut 40 per cent. A number of essential industrial activities including railroad locomotive and terminal operations, are exempted from the restriction.

Heating oil use in Oregon and Washington was rationed January 25 by Petroleum Administrator Ickes, who announced that a reduction of 25 per cent in consumption would be required to bring it within the capacity of available transportation facilities, since tanker vessels have been diverted to other uses.

Mr. Ickes also announced January 27 that work is scheduled to start in March on a second pipeline from Texas to the Midwest. If materials are made available without interruption, it is expected to be completed by September, adding about 235,000 barrels a day to the movement of oil to rail loading points in the midwestern area. The War Production Board is said to have approved the project, subject to review by its requirements committee. The $44,000,000 line will be financed by the Defense Plant Corporation.

The new line will be about 836 miles long, the announcement said. It will run from the Beaumont-Houston area of Texas to Seymour, Ind., and for over half its length will follow the same right-of-way as the line just completed to Norris City, Ill. Unlike that line, however, it will be used for light petroleum products from refineries. By increasing the quantity of oil available in the Midwest at rail loading points, the new pipeline will shorten the route over which many tank cars are now operating and so effect a net increase in daily deliveries to the East coast of about 110,000 barrels a day, Mr. Ickes said. This estimated addition to railroad capacity was not included in the figures Mr. Pelley gave the Senate committee the same day. A decision will be made later, perhaps around May 1, as to extending this project from Indiana to the Atlantic seaboard, it was said.

An order of the Petroleum Administrator announced January 21 banned the use of tank cars engaged in the East coast movement for gasoline shipments. This step was taken to assure some immediate increase in fuel oil deliveries in the section where the shortage has been most acute, and was made possible by the reduction in gasoline consumption that followed the ban on pleasure driving in that region. Barges and pipelines will continue to handle gasoline, it was pointed out, and eastern refineries will continue to produce it, so it is expected that a sufficient supply will be available to meet current restricted requirements.

Last week Mr. Ickes, acting in his capacity as Solid Fuels Co-ordinator, announced that the all-rail movement of anthracite into New England in the week ending January 16 was about one-third less than the weekly average for November and December, though a total increase of 240 cars over the preceding week's figure was achieved by diverting coal intended for Canada and points west of Erie, Pa. The total all-rail coal movement into New England for the week ending January 16, including anthracite and bituminous, was about 315,750 tons, he said, as compared with 304,465 tons in the previous week. Production in the anthracite fields dropped about 343,000 tons in the same week, it was reported, as a result of the miners' strike.

Soap Makers Cut Freight Car Use

Soap manufacturers have released about 50 per cent of the tank cars and close to 40 per cent of the box cars used for shipping their products as a contribution toward relieving the wartime burden on transportation, the industry's War Production Board advisory committee announced January 26. This saving was made through heavier loading; faster loading, unloading and dispatching of cars; and to some extent by use of trucks and water transportation.

It was said that the industry is continuing to study ways in which its needs for freight cars can be reduced. For example, plans are being developed for greater use of inland waterways, and close attention is being given to loading capacity of trucks and to full utilization of that capacity. Industry facilities are being investigated with a view toward reducing cross-hauling and circuitous routing, particularly by having Army and Navy requirements filled at plants closest to the points of consumption.

Trains Put on to Save Rubber

For the purpose of transporting war workers to and from a plant in Sydney, N. Y., by rail instead of by automobile, the Office of Defense Transportation on January 22 announced that the New York, Ontario & Western has been authorized to operate three additional passenger trains daily in each direction between that point and Norwich, 25 miles.

Canada Gets Selective Service Leader from C.N.R.

Charles F. Needham, assistant to vice-president and general manager of the Canadian National, has been named associate director of National Selective Service (Civilian) for Canada, it has been announced by Humphrey Mitchell, the Dominion's Minister of Labor. Mr. Needham has had 40 years' railway service with the former Grand Trunk and its successor, the Canadian National. During that time his duties have involved handling labor relations with officers of the various unions, on railway lines in Canada as well as the United States.

Women in Railroading

Although more women are employed in the railroads than in any other form of transportation, "the percentage of women when compared to total number of employees is still very small," Otto S. Beyer, director of the Office of Defense Transportation's Division of Transport Personnel, said this week. Mr. Beyer made this statement in a general announcement revealing that the employment of women in the transportation industry "has moved forward perceptibly in recent months."

The scope of women employees on the railroads, he said, is expanding to include mechanics and mechanics' helpers, machinists and machinists' helpers, signal towermen, upholsterers, yard clerks, section hands, and "numerous other occupations." In point of number, however, clerical jobs predominate.

ODT Lets Buses Travel More

Mileage restrictions on the use of new buses were liberalized by an Office of Defense Transportation notice announced January 26, to be effective February 1. Both urban and inter-city operations are affected, and altogether some 2,528 buses will be permitted to run greater distances per month than the ODT has permitted heretofore.

The order applies to new buses placed in

service since July 31, 1942, which up to this time have been limited to 4,000 miles per month in inter-city operations and 2,000 miles per month in urban use. A 50 per cent increase in these limits is now authorized. The mileage limitations were amended, the ODT announced, to meet the growing demand for bus transportation that has followed increased restrictions on the use of gasoline, and also to accommodate the needs of war industries for additional service.

Average L.c.l. Carload Still Increasing Slightly

The average load of l. c. l. freight reported for the month of November by 116 Class I railroads was 20,704 lb., the Office of Defense Transportation announced January 23. This figure compares with 20,592 lb. reported in the month of October.

While the average l. c. l. load per car for Class I roads as a whole was 112 lb. higher in November than in October, and in excess of the 10 ton minimum required after September 1 under ODT General Order No. 1, only 44 roads reported average loads of 10 tons or over, the ODT announcement points out. On 16 roads the average load was less than 5 tons per car. In cases where the 10 ton minimum requirement was not met, however, cars were loaded and operated under exceptions to the general order.

Class II and Class III roads reported an average l. c. l. carload in November of 17,646 lb., an increase of 241 lb. over the average figure reported in the preceding month. Freight forwarding companies in November reported an average l. c. l. load of 41,939 lb., as compared with 38,181 lb. in October. This large increase was stated by the ODT to reflect the effect on such shipments of ODT General Order No. 18, applying to carload freight.

The fact that all classes of carriers were able to report higher average loads in November than in the preceding months, in spite of a seasonal decrease in the volume of traffic handled, clearly indicates their "continued and intensified co-operation" in achieving the purposes of General Order No. 1, the ODT adds.

New Ceilings Set on Fuel Oils

A new price structure has been set up and new dollar and cents ceiling prices have been established for industrial and railroad fuel oils refined in parts of Kansas, Arkansas, Louisiana, Oklahoma, New Mexico and Texas, the Office of Price Administration announced January 25.

Demands for residual fuel oils in this area now exceed by a wide margin the local production, the OPA points out. The deficiency in railroad fuels has amounted to 750,000 barrels a month, or close to one-third of their total consumption. It is expected that the new price regulations will enable the roads and other industrial consumers to obtain their supplies locally at less cost than when, as at present, deficiencies are made up by shipment by tank car from Gulf Coast refineries.

The new ceiling prices will permit greater flexibility of refinery operations, it is said, and will result in increased production within the affected area of industrial fuel oils, both through blending distillate fuels with heavier oils and by requiring refiners to change their yields. At the same time prices prevailing in the several market areas will be equalized.

Another important result expected from the order is the release of tank cars now engaged in moving fuel into this territory from the Gulf Coast, making them available for the long haul service to the Atlantic seaboard.

Byrnes and Brown Hire Counsel in Ex Parte 148 Case

Max Swiren of the Chicago law firm of Levinson, Becker, Peebles & Swiren has been employed as special counsel for Price Administrator Prentiss M. Brown and Economic Stabilization Director James F. Byrnes to press their petition for discontinuance of the freight and passenger rate increases authorized early in 1942 in the hearings in Ex Parte 148 scheduled to begin February 2 before the Interstate Commerce Commission.

In announcing this appointment January 24, the OPA recited its two principal reasons for seeking a discontinuance of the increased rates. First, it says, "the wartime increase . . . runs counter to the national economic stabilization policy. Costs of production and distribution rise with larger transportation costs, thus adding to the already great pressure upon price ceilings." It adds in this connection the assertion that no rate increases of any kind are justified in view of the "phenomenal profits" of the railroads.

Second, the statement says, the 1942 increases were allowed to enable the roads to meet increased operating costs, "due in part to advanced labor costs." Intensified industrial production and wartime operating economies have made higher rates "wholly unnecessary to meet these cost items," it asserts. Apart from the rate increases, net railway operating revenues rose $800 million in 1942, which, says the OPA, "should be more than ample to cover cost increases of less than 400 million dollars." The 1942 net before federal taxes, it adds, is in fact 264 per cent of the average of the three previous years, while the net "after increased war taxes" is 364 per cent of the average for the three preceding years.

Following a meeting in Washington last week of a special subcommittee of the traffic committee of the American Trucking Associations, it was stated that representatives of the trucking industry will appear at the hearings before the commission in opposition to the OPA petition. Because rate increases were allowed truck operators in 1942 also, it was said that any reduction in railroad rates that might result from the proceedings necessarily would involve corresponding reductions in truck rates, seriously reducing operators' net earnings.

On January 26 the commission announced its program for the hearings to begin February 2. Three days are allotted tentatively for the presentation of testimony for the federal and state bodies and others supporting the petition for rate reductions, while February 5 and 6 are assigned to the railroads and supporting organizations. Provision is made for rebuttal testimony to follow these presentations.

I. C. C. Prohibits Back-hauling of Company Material

Back hauling of company material, including fuel, has been prohibited by the Interstate Commerce Commission under Service Order No. 105, issued on January 26 to become effective immediately and to remain in force "until further order of the commission."

The order stipulates that the practice of transporting in carloads coal or other materials used by railroads in their operations "through the points at which such material is to be used or stored, to a more distant point, and back-hauling such material to the point or points of use or storage, is hereby suspended and prohibited." The order also said that such practice "results in wasteful transportation"; and that "an emergency exists requiring immediate action to prevent shortage of railroad equipment and congestion of traffic."

OPA Permitted to Intervene in I. C. Passenger Fare Case

The Office of Price Administration was granted leave by the Superior court of Illinois, on January 21, to intervene in an injunction action brought by the Illinois Central to restrain the Illinois Commerce Commission from interfering with a 10 per cent fare increase on commutation tickets which became effective last March. The petition of OPA stated that any increase in fares will have a disruptive effect on the price structure which the OPA, it is alleged, is endeavoring to maintain. It explained further that automobile, tire, and gasoline rationing are affecting travel habits.

"It may reasonably be expected that competition from other forms of transportation such as buses and private automobiles will be reduced and that urban and suburban passenger traffic upon the plaintiff's railroad system and the revenues derived therefrom will be considerably increased," the petition said.

"Whatever may be the merits of the plaintiff's contention in normal times, the situation now presented is not the usual situation where a public utility is held to be entitled, as a matter of constitutional right, to a schedule of rates calculated to yield a reasonable net return on the capital used and useful in the public service, but that of a grave national emergency where the lives and property of all our citizens must be dedicated to a single purpose."

The petition said the suburban service involved is an indispensable transportation for millions of people in one of the most vital defense areas in the country and that normal means of avoiding increased transportation costs are not now available.

The controversy over Illinois passenger rates is due to a state law which sets a limit of two-cents-a-mile. It dates back to the early part of 1942, when, after the Interstate Commerce Commission authorized the railroads to increase fares 10 per cent, effective February 10, the railroads in the

Chicago area asked the Illinois Commerce Commission to waive its 30-day requirement and make increases in multiple-trip commutation fares between Chicago and suburban districts effective on that date. The commission refused to grant this request and the railroads on February 6 filed tariffs to become effective on March 8, in accordance with the 30-day requirement. All intrastate tariffs seeking to increase fares beyond the two-cents-a-mile limit set by state law were rejected by the Illinois commission and on February 18 it suspended for four months the commutation rate schedules of 14 railroads pending hearings on each application.

The Illinois Central, however, raised 80 per cent of its commutation fares 10 per cent and on November 24, 1942, the state commission directed it to reduce the fares already increased and forbade any increase in the other 20 per cent. On December 30, 1942, the Superior court, in answer to a plea of the Illinois Central, issued a temporary injunction restraining the state commission from interfering with the collection of the higher fares which this railroad made effective on January 23. The Superior court on January 8 also issued an injunction preventing the commission from interfering with the collection of higher fares by the Chicago & North Western after they are placed in effect on February 1, 1943.

WPB Makes 1943 Bus Allotment

Critical material for the construction in 1943 of 1,500 buses and 3,515 bus bodies have been allotted by the requirements committee of the War Production Board, Andrew Stevenson, director of the WPB transportation equipment division, announced January 26. The allotment is for civilian use, and does not include equipment for the armed services or for export, it was said, and there is a possibility that an additional 1,500 buses may be provided for later.

Materials and Prices

Following is a digest of orders and notices of interest to railroads issued by the War Production Board and the Office of Price Administration since January 3.

CMP lists—Distribution of the Controlled Materials Plan Class B Product List was begun January 7. The list includes some 500 groups of related items classified as B products and will be used by manufacturers operating under CMP to determine whether they are Class A or Class B producers. Only those products containing controlled materials which are included in the official list are Class B products. All other products containing controlled materials are, by definition, Class A products. Under CMP, manufacturers of A products will receive their allotments of materials from the Claimant Agency or Agencies under whose programs they are operating. B producers, on the other hand, will receive their allotments from the appropriate Industry Divisions of the War Production Board. The list supersedes the Class B Product List of November 2, 1942, and is obtainable on request by consumers of scarce materials.

Inventories—CMP Regulation No. 2, issued January 7, establishes inventory restrictions under the Controlled Materials Plan. The general purpose of the new regulation is to hold the aluminum, copper and steel inventories of manufacturers and other users to a maximum of 60 days forward requirements. Acceptance of deliveries of controlled materials after April 1 is prohibited if delivery would increase inventories beyond the prescribed limits. The controls are applicable item by item. Acceptance of delivery of any item required for authorized operations is permitted even though the inventory of some other item may be excessive. The prohibition against acceptance of any item of controlled material which would result in inventories in excess of 60-day needs applies to materials in the form received from the supplier and on which no processing has been done. The regulation does not authorize any person to exceed a practicable minimum working inventory when less than a 60-day supply is needed. Inventories of all other items also remain subject to Priorities Regulation No. 1.

Lumber—Conservation Order M-208, as amended January 12 to facilitate an orderly flow of materials through regular trade channels into the hands of consumers who require lumber for repair, maintenance and other necessary purposes, establishes four new categories of uses of softwood lumber based on the relative importance of these uses in the war program which take the place of Class 1, 2, 3 and 4 orders in the previous version. List A products are given preference ratings of AA-2X and include lumber used for maintenance or repair of railway rolling stock. List B products are given preference ratings of AA-3 and include lumber for the construction of locomotives and cars and new railroad structures, including bridges and buildings. List C, with preference ratings of AA-4, extends to buildings damaged by fire and List D, with preference ratings of AA-5, covers lumber for less essential structures and products. The order permits replacement in inventory of all lumber delivered to retail yards after January 12, regardless of the preference rating under which the lumber is sold. The 60-day limitation on inventories is also eliminated. The amended order will apply to that portion of the output of Douglas fir lumber which is not wanted by the central procuring agency for military use. Such lumber, when released by WPB on Form PD-423, will be distributed on preference ratings through regular trade channels.

Limitation Order L-218, covering Douglas fir, as amended January 12, permits the disposition of the non-military Douglas fir lumber by releasing quantities without identifying persons or uses as previously required on Form PD-423. Mills may now dispose of the prescribed grades of timber by applying priorities granted in Order M-208. Ratings of AA-2X or higher may be extended, but the revised order provides that ratings of AA-3 or lower may not be extended for replacement in inventory of softwood lumber shipped or delivered before January 12.

Railroad equipment—Interpretation No. 1 of Preference Rating Order P-88, issued January 15, permits a railroad to sell material without specific authorization when the material is to be physically incorporated in repairs of equipment leased as well as owned by the railroad. Until the present time leased cars and locomotives have had the same status as equipment belonging to another company.

Railroad materials—Instructions to holders of Order P-88 for filing requests for second quarter material for maintenance and repair were issued by the Transportation Equipment Division of WPB in January, notifying railroads to have requests for allotment of controlled materials and requests for authorization for other CMP materials and fabricated parts submitted not later than February 1, 1943, covering second quarter 1943 requirements—the requests to be submitted on Form PD-351 as indicated in the instructions.

Roofing—Limitation Order L-228, restricting the manufacture of asphalt or tarred roofing products and asphalt shingles, as clarified December 29, does not limit the manufacture of building papers and other tarred materials and asphalt products not listed in the order, according to Interpretation No. 1. Special asphalt or tarred saturated or coated products are excluded from the provisions of L-228 when manufactured for an industrial use. Examples are pipe coverings; products to be combined with other materials to make other products, such as combination flashing materials and products for use in the manufacture of freight cars. The limitations imposed by L-228 are applicable only to the manufacture of asphalt or tarred roofing products and asphalt shingles which are produced for application to exterior surfaces of buildings for the purposes of weatherproofing.

Rubber—An amendment to WPB Regulation No. 1, effective January 9, gives the rubber director complete control over the distribution of the nation's rubber supply, including all allocations and apportionments from the rubber stockpile. It also vests in him the power to issue, administer and, if necessary, to amend or repeal orders regulating the production, distribution and use of rubber and rubber products. It does not, however, include the authority to control the distribution of materials used in the production of rubber.

Used locomotives—General Limitation Order L-97, as amended January 1, 1943, prohibits the sale, lease, delivery or transfer of any used locomotive unless authorized by application filed upon Form PD-747. The order does not, however, prohibit railroads from selling or leasing used locomotives to other railroads; or the redelivery to the owner of any used locomotive which has been repaired, rebuilt, redesigned or otherwise processed for such owner; or any person from transferring title to a locomotive which has been delivered pursuant to the terms entered into prior to January 1; or from obtaining redelivery of any locomotive upon default of the terms of a prior sale. The order also prohibits the dismantling or scrapping of any used locomotive without authority from WPB on application Form PD-747.

Prices

Coal—Amendment No. 10 to Maximum Price Regulation 112 (Pennsylvania anthracite), effective January 9, increases the maximum prices of Pennsylvania anthracite approximately 50 cents a ton at both mine and retail levels. The price increases will average 48.7 cents a ton. Overtime payments for work on the sixth day account for 27 cents of the price increase, while 21.7 cents covers higher costs of production which have been incurred by the industry since October, 1941, the base period used in the establishment of the Pennsylvania anthracite regulation. The new price schedule reflects increases of from 50 to 55 cents on domestic and pea sizes and 30 to 45 cents a ton for steam sizes, f.o.b. mine.

Iron and steel—Bulletin OPA-T-479, issued January 7, publishes dollars-and-cents warehouse prices for jobbers, dealers and distributors handling iron and steel products for resale. Products affected are hot rolled bars, structural shapes, plates, floor plates, hot rolled strip, hot rolled sheets, galvanized sheets, cold rolled sheets and cold rolled bars, as listed in Amendment No. 10 to Revised Price Schedule No. 49, as amended, effective January 11, 1943. Specific base prices and quantity extras are established in the 25 warehouse centers and 5 mill basing points from which the lowest combination price to any point in the United States is figured. In general, the prices reflect the April 16, 1941, base date prices of the sellers listed in the original schedule. In some instances, prices are established for certain items either because the listed sellers in a city had no published prices for the items, or because prices charged on the base date by listed sellers were not representative of the major portion of the tonnage sold. The amendment does not change the level of maximum prices which prevailed on April 16, 1941, since no seller may exceed his own April 16, 1941, price for a particular commodity even though the new published price is higher.

Price lists—The 17th of a series of pamphlets digesting interpretations of specific price schedules and regulations other than the General Maximum Price Regulation was distributed by OPA on January 4. The pamphlet contains a digest of the status of tin cans under Price Schedule No. 4 (iron and steel scrap) and the applicability of Maximum Price Regulation No. 136 (machines and parts and machinery services) to electrical contractors.

GENERAL NEWS

Zeal for Aviation Rises in Congress

House is urged to name "air-minded" members to a promotion group

Those who are inclined to believe that the national government is moving toward a reasoned transportation policy—to encourage each transportation agency to develop its own natural economic niche, rather than wastefully invade the fields natural to other agencies—will be interested in noting the agitation now pervading Congress for political developmental work in behalf of air transportation. Zealots for this newer agency say nothing about its orderly development as *a part* of a national system of transportation. They are, rather, candid protagonists of this agency alone—and are not concerned with the national interest in the preservation or economic development of any other transport medium, if, indeed, they concede the existence of any national interest in these other agencies.

Witness the following enthusiastic excerpts from a Congressional committee report, recently filed:

"We shall see the true beginning of the air age after the war.

"Domestic passenger and mail craft will find themselves flying the airways with cargo ships.

"The carriage of all first-class mail by air . . . may come into existence to further swell the loads of air transport craft.

"It is anticipated that within a few years after peace returns to the world the air lines of the United States will be carrying 20,000,000 passengers a year and half a million Americans will be flying their own planes. Regular freight planes will be flying the airways and all first-class mail will go by air. There will be feeder lines to smaller cities and pick-up service to the villages.

"Such authorities as Grover Loening have predicted that cargo planes of a new type with a gross load of 200,000 lb. and a pay load of 40 tons will bring operating costs down to under 4 cents a capacity-ton-mile.

"Air freight will not have to depend on ground transportation. Airplanes can be used for local pick-up and delivery—to and from a store to a customer's backyard. There undoubtedly will be a system of freight airports, separate from passenger airports.

"Thus, after the war, huge quantities of cargo will be shipped by air, not only because it is faster and requires no transfers, but also because it will be cheaper.

"The fullest utilization of the aeronautical development of the United States requires that adequate provision be made by the Congress for those government agencies having charge of civil aviation.

"*A permanent committee of air-minded Congressmen* should be appointed in the House of Representatives to work with those government agencies for the protection and development of interstate and foreign air commerce."

Signatories to this report were Congressmen Jack Nichols, Richard Kleberg, Herron Pearson, Everett Dirksen, Carl Hinshaw. The job assigned the committee was to investigate air accidents, but, the subject matter of its report ventured enthusiastically far beyond its assignment. Suggesting the zealous frame of mind of what is at least a lusty minority in Congress.

Too Many "Experts"

"We hope and believe that Mr. William M. Jeffers will accomplish his assigned task of providing a supply of rubber not only sufficient for the needs of the armed forces but also sufficient to augment the civilian supply.

"But whether or not Mr. Jeffers does succeed, his stay in Washington will not have been in vain. He has, we think, made the best speech of the war.

" 'On rubber,' said Mr. Jeffers, 'we have had too many experts in Washington as we have had too many experts on lots of things in Washington.' "

—*From the Wall Street Journal.*

1942 Passenger Traffic Sets Record at Grand Central

A total of 51,044,587 passengers, both incoming and outbound, were handled at Grand Central terminal, New York, during 1942, according to J. H. Hustis, Jr., manager of the terminal. This 1942 total breaks all former records, the previous high figure having been attained in 1929, when 46,597,975 passengers were handled. The 1942 total represents an increase of 23.3 per cent over 1941.

December traffic also set a new record, with 4,720,086 passengers handled, as compared with 4,164,870 in 1929, the previous high. December 24 was the biggest day in the terminal's history—209,272 passengers being handled as against the previous maximum of 171,260 for the same day in 1941.

A steady gain in commuter traffic and in the total number of suburban and reduced fare passengers for the year 1942 was also reported.

Railroad Employee Security Program

Plans, including workmen's compensation, contemplate 17.3% payroll tax

Assessments rising by 1949 to a 17.3 per cent payroll tax, of which 11.05 per cent would be paid by the railroads and 6.25 per cent by their employees, are contemplated under a broadened social security program for railroad employees which is understood to have been prepared by the Railroad Retirement Board in cooperation with railroad labor organizations. In any event the program has been prepared, and for some time has been embodied in a tentative bill which Senator Wagner, Democrat of New York, has been expected to sponsor.

Generally the plan provides for liberalizing benefit provisions of the railroad retirement and unemployment systems, while adding also a federal workmen's compensation law covering railroad employees. The latter would be part of a new consolidated bill—"The Railroad Social Insurance Bill"—which would also embrace the liberalized Railroad Retirement and Railroad Unemployment Insurance acts, and the Carriers' Taxing Act.

Liberalized Retirement Act benefits would include new provisions with respect to annuities for permanent disabilities, minimum annuities, survivor benefits, and a "simplification" of the definition of employment relation. Coverage under the Unemployment Insurance Act would be broadened to privide benefits for "unemployability resulting from injury and disease arising from nonoccupational causes." Then there would be the service-connected disability benefits provided under the workmen's compensation phase of the plan. In that connection the coverage would include diseases judged to be service-connected as well as accidental injuries.

The 1949 payroll tax of 17.3 per cent would be built up this way: The present retirement taxes under the Carriers Taxing Act would be increased by five per cent, raising the maximum to be reached in 1949 from the present scale's 7½ per cent to 12½ per cent. The unemployment insurance tax would remain at the present three per cent rate, while a new tax of 1.8 per cent would be assessed on the carriers to support the workmen's compensation system. Of the foregoing, the employees would, as they now do, pay only half of the retirement tax, or 6.25 per cent out of the 17.3 per cent total as noted above.

A novel feature of the proposal with

(*Continued on page 301*)

Truck Makers Ready For Air Competition

Predict technical developments and hope for "uniformity" of state regulation

Air transport—"a lusty infant" growing phenomenally under the prod of war—will provide plenty of competition for established land and water carriers in the postwar period, said Robert F. Black, president of the White Motor Company, but this will be a spur effectively preventing slackening progress, and should be allowed to grow "without chains and fetters."

Mr. Black was one of the spokesmen of the Automotive Council for War Production who appeared at a January 25 Washington meeting arranged by the Board of Investigation and Research created by the Transportation Act of 1940. The meeting was called to give the highway vehicle industry an opportunity to make an oral presentation and interpretation of the review of technological changes and developments in that industry which the board had asked it to prepare, which took the form of a report on commercial motor vehicle improvements filed with the board in December, 1942. Interested members of Congress and representatives of government agencies concerned with transportation were invited to be present.

While the prepared statements presented at the meeting mainly concerned technical changes in truck, trailer and bus construction and design over a twenty-year period, with some reference to experience gained from military demands in the present war, a few speakers, Mr. Black among them, revealed some of their thoughts about postwar conditions.

"There has been much speculation and prediction," said Mr. Black, "that air transport will take over many types of transportation now profitably performed by highway vehicles. Whether it takes away present business or not, it is certain to develop new business both for itself and for the others."

After referring to technical developments that are likely to follow resumption of peacetime industrial progress, the speaker mentioned several reasons why an attempt to chart a "definite evolutionary pattern" for the future of highway vehicles would, in his opinion, be futile. These reasons are the same, essentially, he said, as those that have controlled their development in the past, such as the nature of the highways and terrain over which they must operate, legal "restrictions and regulations," the "dynamic and radical" engineering advances that may come out of the war, and "the ideas and wants of tens of thousands of people all over the country."

The discussion was introduced by Chairman Nelson Lee Smith of the Board of Investigation and Research, who remarked that a "proper evaluation of the respective roles of the various transportation agencies in a well balanced and economically sound system necessitates intimate knowledge of the means whereby each performs its task; to develop wise and practical national transportation policies requires recognition of the fact that techniques in transportation have evolved, and are changing, with almost revolutionary rapidity."

George M. Kellogg of the International Harvester Company called for greater uniformity in state regulations affecting the physical characteristics and safety appliances of commercial highway vehicles. "Truck manufacturers," he said, "have never objected to reasonable regulatory legislation—an attitude taken with the realization that the absence of any restrictions could result in customer demand for development of some vehicle so undesirable from the standpoint of other road users as to inspire even more drastic legislative curbs than we know today."

Membership of House Committee on Interstate Commerce

Members of the House committee on interstate and foreign commerce for the present Congress were named this week, the membership including 14 Democrats and 11 Republicans. Representative Clarence F. Lea, Democrat of California, remains as chairman, while Representative Charles A. Wolverton, Republican of New Jersey, continues as ranking minority member.

Other members of the committee are: Democrats—Crosser of Ohio, Bulwinkle of North Carolina, Chapman of Kentucky, Boren of Oklahoma, Kennedy of New York, O'Toole of New York, Beckworth of Texas, D'Alesandro of Maryland, Myers of Pennsylvania, Priest of Tennessee, Harris of Arkansas, Sadowski of Michigan, Harless of Arizona; Republicans—Holmes of Massachusetts, Reece of Tennessee, Halleck of Indiana, Hinshaw of California, Brown of Ohio, Howell of Illinois, Tibbott of Pennsylvania, Hall of New York, Winter of Kansas, O'Hara of Minnesota.

The membership of the Senate Interstate Commerce Committee was published in the *Railway Age* of January 23, page 263.

Telegraph Merger Bill

The Senate on January 25 passed S. 158, the bill to amend the Communications Act of 1934 to permit mergers of domestic telegraph carriers.

Would Require Motor Carriers to Handle Mail

Representative Hare, Democrat of South Carolina, has introduced H. R. 1299 which would provide that "in any case where the Postmaster General is of the opinion that adequate railroad facilities are not available for the transportation of the mails, he may require any common carrier by motor vehicle . . . to transport such mail matter as may be offered by the United States for transportation. . . ."

Brakes on Tank Cars Need More Attention

Cars are being cut out under load for defects which care would avoid

A circular letter, sent out by the A.A.R. Mechanical division under date of January 21, calls attention to a number of brake conditions which should receive more careful attention before tank cars are loaded and also after they have been made empty and before the return movement for another load.

Many cars are being cut out of trains and placed on repair tracks, particularly in loaded movement, on account of air brakes being cut out. When making air tests on such cars it has been found that approximately six out of every ten cars set out for this reason meet test requirements and should not have had their air brakes cut out. This condition can be overcome if more care is exercised in making air tests at terminal points when air brake tests are made. Air brakes must be "in date" and in operative condition before being placed for loading or before being returned empty from point where unloaded.

Many cars, particularly tank cars, are said to be arriving at various terminals with increased cylinder piston travel, in many cases as much as 10 in. Cylinder piston travel must be adjusted to not less than 7 in. nor more than 9 in., preferably 8 in., before cars are placed for loading or before being returned empty from point where unloaded, as per A.A.R. Standard.

Many cars are being shopped enroute on account of loose air brake cylinders, reservoirs and piping. Some cases are found where the entire train brake air line is loose, broken or leaking on account of not being properly clamped in place, clamps loose or missing.

It is urged that all concerned take necessary action to condition air brake equipment properly on tank cars before loading and before they are returned empty, in order to eliminate delays caused by cars being set out enroute for repairs.

Vice-chairman V. R. Hawthorne points out that a review of the replies received to date on Form TCCO indicates that the major defects causing cars to be cut out of trains enroute are brake rigging defects, wheel defects, coupler and coupler part defects, broken train line and crossover pipes. This indicates that if greater care and attention were paid to maintaining concentric wheels under equipment, further effort made to prevent too much free slack in draft gears, and closer inspection of brake beams and brake rigging, a large number of defects on cars enroute would be eliminated, all of which would improve the serviceable car days of equipment and further assist in the war effort in the present emergency movement of petroleum products to the eastern seaboard.

This same condition with respect to defects causing frequent shoppings of cars also applies to all classes of equipment, and if every effort were made to insure these

mittee to inform Mr. McNutt of its "very strong feeling" that the railroad hearings postponed the week before, as reported in *Railway Age* of January 16, page 224 should be held as soon as possible.

The announcement added that the committee had received assurance in a conference with Mr. McNutt that "every consideration" would be given that recommendation. It is important to the war effort that discrimination be ended, the WMC chairman stated, because it "constitutes a waste of manpower."

Freight Car Loading

Loadings of revenue freight for the week ended January 23 totaled 703,578 cars, the Association of American Railroads announced on January 28. This was a decrease of 51,791 cars, or 6.9 per cent, below the preceding week, 114,503 cars, or 14 per cent, below the corresponding week last year and 7,174 cars, or one per cent, below the comparable 1941 week.

As reported in last week's issue, loadings of revenue freight for the week ended January 16 totaled 755,369 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

District	1943	1942	1941
Eastern	144,610	173,537	156,654
Allegheny	158,945	174,653	155,724
Pocahontas	54,028	51,457	46,513
Southern	122,219	126,139	110,918
Northwestern	82,625	98,866	80,271
Central Western	122,706	126,558	101,969
Southwestern	70,236	60,117	51,449
Total Western Districts	275,567	285,541	233,689
Total All Roads	755,369	811,327	703,497
Commodities			
Grain and grain products	53,351	45,737	31,295
Live stock	14,570	13,825	12,550
Coal	165,789	174,119	147,002
Coke	15,314	14,900	13,517
Forest products	42,549	44,114	38,486
Ore	14,365	12,896	12,508
Merchandise l.c.l.	86,663	146,697	147,782
Miscellaneous	362,768	359,039	300,357
January 16	755,369	811,327	703,497
January 9	716,272	736,972	711,635
January 2	621,048	676,534	614,171
December 26	591,595	606,502	545,307
December 19	742,911	798,868	697,755
Cumulative Total, 3 weeks	2,092,689	2,224,833	2,029,303

In Canada.—Carloadings for the week ended January 16 totaled 61,947 as compared with 57,732 for the previous week and 63,361 for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
January 16, 1943	61,947	34,168
January 9, 1943	57,732	31,715
January 2, 1943	45,767	29,625
January 17, 1942	63,361	30,990
Cumulative Totals for Canada:		
January 16, 1943	165,446	95,508
January 17, 1942	169,243	82,195
January 18, 1941	146,163	77,757

Bills in Congress

Representative Edwin Arthur Hall, Republican of New York, has introduced H. R. 1504 which would provide for transportation home during furlough of non-commissioned officers and other enlisted men on active service. The bill, identical with S. 343 previously introduced in the Senate, would give the men travel certificates which the Treasury would redeem for the carriers.

Representative Izac, Democrat of California, has introduced H. R. 1516 to prohibit interstate common carrier pipe lines from transporting commodities in which such carriers have an interest.

In the Senate proposed amendments to the Railroad Retirement Act have been introduced by Senators McKellar of Tennessee and Andrews of Florida, Democrats. The bills are S. 527 and S. 553. Mr. McKellar has also introduced S. 526 to provide for the construction of a canal across Nicaragua.

New Edition of I. C. C.'s Accounting Classification

The 1943 edition of the Interstate Commerce Commission's Accounting Classification will be ready for distribution on or about February 1, according to a recent notice from E. H. Bunnell, vice-president of the Association of American Railroads. The revised edition contains all changes in orders of the I. C. C. to be effective January 1, 1943.

Both bound and loose-leaf volumes are available, the price being 30 cents per copy to railroads and their employees and 60 cents to others. Remittances should be sent to H. J. Forster, treasurer of the A.A.R. Transportation building, Washington, D. C.

Meanwhile the volume containing Interpretations of Accounting Classifications, consisting of Bulletin 15 cases and "A" cases, will be completely reprinted with copies available about February 28. These will be distributed to purchasers of the original loose-leaf interpretations.

Operating Unions File Demand for 30 Per Cent Wage Increase

Demands for a 30 per cent increase in wages were filed with the railroads by the general chairmen of the Big Five operating unions on January 25. Decision to ask for the increase, with a minimum money increase of $3 per day, was made at a meeting of general chairmen at Chicago on December 8 and 9, but the serving of demands on individual railroads was postponed because of the question whether the National Railway Labor Panel or the National War Labor Board will have jurisdiction.

The demand is the same as that made last year, with the exception that the minimum increase has been raised from $1.80 to $3. Increased wages, it is contended, are necessitated by added responsibilities and hazards placed upon employees, excessive hours, man-power shortage, higher living costs and the inequality of railroad pay compared with that in other industries.

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C. S. Lake of "Railway Gazette" Staff Passes On

Charles S. Lake, a member of the editorial staff of the Railway Gazette (London), and one of Great Britain's leading industrial journalists, died in London on November 19 at the age of 71, after a brief illness.

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Truck Makers Ready For Air Competition

Predict technical developments and hope for "uniformity" of state regulation

Air transport—"a lusty infant" growing phenomenally under the prod of war—will provide plenty of competition for established land and water carriers in the post-war period, said Robert F. Black, president of the White Motor Company, but this will be a spur effectively preventing slackening progress, and should be allowed to grow "without chains and fetters."

Mr. Black was one of the spokesmen of the Automotive Council for War Production who appeared at a January 25 Washington meeting arranged by the Board of Investigation and Research created by the Transportation Act of 1940. The meeting was called to give the highway vehicle industry an opportunity to make an oral presentation and interpretation of the review of technological changes and developments in that industry which the board had asked it to prepare, which took the form of a report on commercial motor vehicle improvements filed with the board in December, 1942. Interested members of Congress and representatives of government agencies concerned with transportation were invited to be present.

While the prepared statements presented at the meeting mainly concerned technical changes in truck, trailer and bus construction and design over a twenty-year period, with some reference to experience gained from military demands in the present war, a few speakers, Mr. Black among them, revealed some of their thoughts about post-war conditions.

"There has been much speculation and prediction," said Mr. Black, "that air transport will take over many types of transportation now profitably performed by highway vehicles. Whether it takes away present business or not, it is certain to develop new business both for itself and for the others."

After referring to technical developments that are likely to follow resumption of peacetime industrial progress, the speaker mentioned several reasons why an attempt to chart a "definite evolutionary pattern" for the future of highway vehicles would, in his opinion, be futile. These reasons are the same, essentially, he said, as those that have controlled their development in the past, such as the nature of the highways and terrain over which they must operate, legal "restrictions and regulations," the "dynamic and radical" engineering advances that may come out of the war, and "the ideas and wants of tens of thousands of people all over the country."

The discussion was introduced by Chairman Nelson Lee Smith of the Board of Investigation and Research, who remarked that a "proper evaluation of the respective roles of the various transportation agencies in a well balanced and economically sound system necessitates intimate knowledge of the means whereby each performs its task; to develop wise and practical national transportation policies requires recognition of the fact that techniques in transportation have evolved, and are changing, with almost revolutionary rapidity."

George M. Kellogg of the International Harvester Company called for greater uniformity in state regulations affecting the physical characteristics and safety appliances of commercial highway vehicles. "Truck manufacturers," he said, "have never objected to reasonable regulatory legislation—an attitude taken with the realization that the absence of any restrictions could result in customer demand for development of some vehicle so undesirable from the standpoint of other road users as to inspire even more drastic legislative curbs than we know today."

Membership of House Committee on Interstate Commerce

Members of the House committee on interstate and foreign commerce for the present Congress were named this week, the membership including 14 Democrats and 11 Republicans. Representative Clarence F. Lea, Democrat of California, remains as chairman, while Representative Charles A. Wolverton, Republican of New Jersey, continues as ranking minority member.

Other members of the committee are: Democrats—Crosser of Ohio, Bulwinkle of North Carolina, Chapman of Kentucky, Boren of Oklahoma, Kennedy of New York, O'Toole of New York, Beckworth of Texas, D'Alesandro of Maryland, Myers of Pennsylvania, Priest of Tennessee, Harris of Arkansas, Sadowski of Michigan, Harless of Arizona; Republicans—Holmes of Massachusetts, Reece of Tennessee, Halleck of Indiana, Hinshaw of California, Brown of Ohio, Howell of Illinois, Tibbott of Pennsylvania, Hall of New York, Winter of Kansas, O'Hara of Minnesota.

The membership of the Senate Interstate Commerce Committee was published in the *Railway Age* of January 23, page 263.

Telegraph Merger Bill

The Senate on January 25 passed S. 158, the bill to amend the Communications Act of 1934 to permit mergers of domestic telegraph carriers.

Would Require Motor Carriers to Handle Mail

Representative Hare, Democrat of South Carolina, has introduced H. R. 1299 which would provide that "in any case where the Postmaster General is of the opinion that adequate railroad facilities are not available for the transportation of the mails, he may require any common carrier by motor vehicle . . . to transport such mail matter as may be offered by the United States for transportation. . . ."

Brakes on Tank Cars Need More Attention

Cars are being cut out under load for defects which care would avoid

A circular letter, sent out by the A.A.R. Mechanical division under date of January 21, calls attention to a number of brake conditions which should receive more careful attention before tank cars are loaded and also after they have been made empty and before the return movement for another load.

Many cars are being cut out of trains and placed on repair tracks, particularly in loaded movement, on account of air brakes being cut out. When making air tests on such cars it has been found that approximately six out of every ten cars set out for this reason meet test requirements and should not have had their air brakes cut out. This condition can be overcome if more care is exercised in making air tests at terminal points when air brake tests are made. Air brakes must be "in date" and in operative condition before being placed for loading or before being returned empty from point where unloaded.

Many cars, particularly tank cars, are said to be arriving at various terminals with increased cylinder piston travel, in many cases as much as 10 in. Cylinder piston travel must be adjusted to not less than 7 in. nor more than 9 in., preferably 8 in., before cars are placed for loading or before being returned empty from point where unloaded, as per A.A.R. Standard.

Many cars are being shopped enroute on account of loose air brake cylinders, reservoirs and piping. Some cases are found where the entire train brake air line is loose, broken or leaking on account of not being properly clamped in place, clamps loose or missing.

It is urged that all concerned take necessary action to condition air brake equipment properly on tank cars before loading and before they are returned empty, in order to eliminate delays caused by cars being set out enroute for repairs.

Vice-chairman V. R. Hawthorne points out that a review of the replies received to date on Form TCCO indicates that the major defects causing cars to be cut out of trains enroute are brake rigging defects, wheel defects, coupler and coupler part defects, broken train line and crossover pipes. This indicates that if greater care and attention were paid to maintaining concentric wheels under equipment, further effort made to prevent too much free slack in draft gears, and closer inspection of brake beams and brake rigging, a large number of defects on cars enroute would be eliminated, all of which would improve the serviceable car days of equipment and further assist in the war effort in the present emergency movement of petroleum products to the eastern seaboard.

This same condition with respect to defects causing frequent shoppings of cars also applies to all classes of equipment, and if every effort were made to insure these

defects being corrected before cars are placed for loading and at the time cars are made empty before being again offered for loading, a great number of these defects which occur enroute would be eliminated and increase the serviceable car days of all types of equipment and further assist greatly in the war effort.

Florida Canal Bill

Representative Hendricks, Democrat of Florida, has introduced H. R. 1353 to appropriate $44,000,000 for "the expeditious construction of the barge canal from the Saint Johns river across Florida to the Gulf of Mexico."

Illinois Commutation Fares

Eleven railroads operating in Illinois have asked the Interstate Commerce Commission to investigate the Illinois Commerce Commission's refusal to permit the application of the Ex Parte 148 increase to their intrastate commutation fares.

Correction

In the article describing the Pennsylvania Class T-1 passenger locomotives which appeared in the December 12, 1942, issue of the *Railway Age*, mention was made of the Sellers Type E injector. The correct designation for the Sellers injector used on these locomotives is Type S.

Designer of Grand Central Terminal Dies at 78

Whitney Warren, architect, who designed the Grand Central terminal group of buildings in New York, died on January 24 at New York hospital at the age of 78. Mr. Warren retired from the architectural firm of Warren & Wetmore in 1931 and since that time had been acting as a consulting engineer.

E. M. Hastings Elected Vice-President of A.S.C.E.

E. M. Hastings, chief engineer of the Richmond, Fredericksburg & Potomac, has been elected vice-president of the American Society of Civil Engineers and was installed in that office at the annual meeting of the Society in New York on January 20. Mr. Hastings has long been active in that Society and has served for some years as chairman of its Student Section activities. Mr. Hastings has also been president of the American Railway Engineering Association.

New Rules for Cleaning and Patching Tank Car Tanks

An A.A.R. Mechanical Division circular, No. DV-1040, issued under date of December 15, 1942, states that in view of the present emergency with respect to transportation of petroleum and its products to the eastern seaboard and other critical areas and the shortage of critical materials such as plate steel, it is necessary, in order to keep the maximum number of tank cars in this service, to make repairs, wherever possible, by the application of riveted patches to riveted tanks where plates are cracked or ruptured. The following note has, therefore, been adopted to follow Inter. No. 1 to interchange Rule 16: "Note—For the period of the emergency and until further advised, the requirements of Rule 16 with respect to patching of riveted tanks of tank cars are waived and will be governed by instructions for Riveting Patches on Riveted Tanks of Tank Cars issued in Circular DV-1040, dated December 15, 1942."

The circular includes instructions for the safe preparation and patching of riveted tanks of tank cars used for the shipment of petroleum products and other inflammable liquids during the emergency, these instructions having been approved by the Committee on Tank Cars and the General Committee of the Mechanical division for the benefit of railroads which have not had previous experience in making repairs to tank cars.

Club Meetings

The Northwest Locomotive Association will meet at 8 p. m. on February 15 at Woodruff Hall, St. Paul, Minn. L. F. Sweeney, representative of the Standard Stoker Company, will address the meeting on the subject of "Hand Firing vs. Stoker Firing of Locomotives." A motion picture depicting fuel bed reactions under various rates of combustion will also be shown.

The Toronto Railway Club cancelled the joint annual and regular monthly meeting which it was scheduled to hold on January 25, because severe weather conditions resulted in extra duties for all railway employees.

Northwest Board Opposes Resources Board Plan

Resolutions calling for the repeal of land grant rates and opposing the National Resources Board's report calling for nationalization of railroad property, the pooling of revenues and S236 were adopted at the twentieth annual and sixty-fourth regular meeting of the Northwest Shippers Advisory Board held at St. Paul, Minn., on January 26. At a joint luncheon with the St. Paul association of commerce, Henry F. McCarthy, director of the Division of Traffic Movement of the Office of Defense Transportation, spoke on Transportation in 1943 and ODT's Part in It.

General Gross Says Railroads Need More Equipment

Praising the railroads for the splendid job they have done so far, Major General Charles P. Gross, head of the Transportation Corps of the United States Army, in an address before the Union League Club, Chicago, on December 21, warned them that they face bigger demands for transportation this year and said that it is essential that they have more equipment if they are to fulfill the tasks they will be called upon to do.

Concerning the accomplishments of the railroads so far in this war with those of World War I, General Gross said that the railroads were determined that the breakdown in transportation that occurred in World War I would not happen again. So far, he conceded, they have succeeded admirably by utilizing their equipment to the utmost and by more efficient operation. These results, he explained, have been achieved by intelligent co-operation through their own organization, the Association of American Railroads, guided by the Office of Defense Transportation and with the excellent co-operation of shippers in loading and unloading cars promptly.

General Gross, in discussing the job facing the railroads during the coming year, said that it would be larger than that in 1942, when all previous records for volume of traffic handled, both passenger and freight, were broken. He explained that to handle any large increase in traffic in 1943, the railroads need more equipment, since the slack has been taken up and they are now operating close to capacity.

Milwaukee Gets Bus Routes

Reversing Division 5's decision of a year ago, the full Interstate Commerce Commission has now granted to the Chicago, Milwaukee, St. Paul & Pacific a certificate authorizing common carrier bus operations in the transportation of passengers, baggage, express, mail, and newspapers over Montana routes between Lewiston and Roy, and Hilger and Winifred. The decision is in No. MC-52293 (Sub-No. 4).

The operations involved have been conducted since June 1, 1935, by the Stendal Transportation Company under contract with the Milwaukee, but the latter wanted the certificate in its own name. In granting it the commission looked into the tieup between the applicant and Stendal, concluding that the railroad "exercised direction and control over the vehicles"; while its assumption of "full responsibility" to the shipper "is plainly shown."

Col. Henry to Address February Meeting of "Railroadians"

The Railroadians of America will hold their next meeting on Thursday, February 11, in the auditorium of the Pennsylvania R. R. Y. M. C. A., Penn station, New York. All railroad "fans," railroaders and the interested public are invited.

Colonel Robert S. Henry, assistant to the president of the Association of American Railroads, is scheduled to address the meeting on the subject of "What the Railroads Accomplished During the War Between the States, and in World War I." He will be followed by Colonel E. C. R. Lasher, of the Transportation Corps of the War department, whose subject will be, "What Our Railroads Are Accomplishing in the Present War."

If time permits, Colonel Lasher will also present a new motion picture film. There will be a question and answer period following the addresses.

Fair Employment Committee Gets McNutt's Consideration

War Manpower Commissioner Chairman Paul McNutt has assured the Committee on Fair Employment Practice that the policy of the administration on labor discrimination practices has not changed from that set forth by executive order, and that it will be "vigorously enforced," the WMC announced on January 22. The statement followed a unanimous decision of the com-

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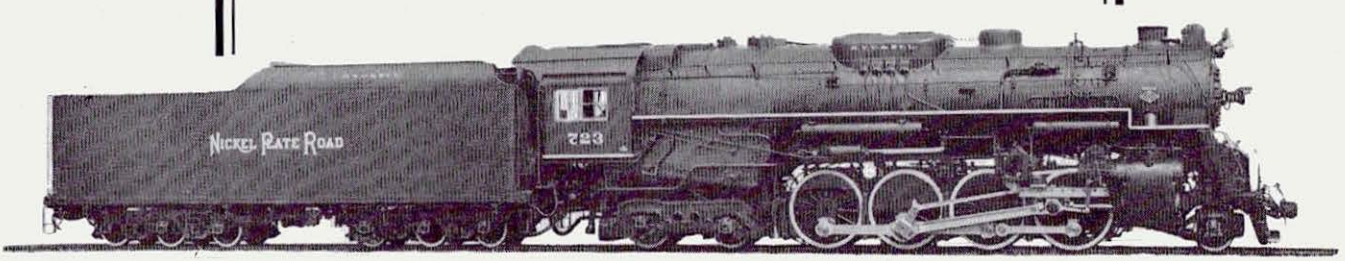
A TRAVELING

Power Plant



Freight operating conditions today demand the hauling of heavier trains at higher speeds.

Only by using locomotives capable of producing higher horsepower can freight train movement be speeded up without reducing tonnage.

Super-Power Steam Locomotives haul heavier trains faster; shorten the railroad and increase its capacity; reduce the number of locomotives necessary for a given operation.

LIMA Super-Power Steam Locomotives are demonstrating their "extra-capacity" power on many roads throughout the country.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

mittee to inform Mr. McNutt of its "very strong feeling" that the railroad hearings — postponed the week before, as reported in *Railway Age* of January 16, page 224 — should be held as soon as possible.

The announcement added that the committee had received assurance in a conference with Mr. McNutt that "every consideration" would be given that recommendation. It is important to the war effort that discrimination be ended, the WMC chairman stated, because it "constitutes a waste of manpower."

Freight Car Loading

Loadings of revenue freight for the week ended January 23 totaled 703,578 cars, the Association of American Railroads announced on January 28. This was a decrease of 51,791 cars, or 6.9 per cent, below the preceding week, 114,503 cars, or 14 per cent, below the corresponding week last year and 7,174 cars, or one per cent, below the comparable 1941 week.

As reported in last week's issue, loadings of revenue freight for the week ended January 16 totaled 755,369 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

District	1943	1942	1941
Eastern	144,610	173,537	156,654
Allegheny	158,945	174,653	155,724
Pocahontas	54,028	51,457	46,512
Southern	122,219	126,139	110,918
Northwestern	82,625	98,866	80,271
Central Western	122,706	126,558	101,969
Southwestern	70,236	60,117	51,449
Total Western Districts	275,567	285,541	233,689
Total All Roads	755,369	811,327	703,497
Commodities			
Grain and grain products	53,351	45,737	31,295
Live stock	14,570	13,825	12,550
Coal	165,789	174,119	147,002
Coke	15,314	14,900	13,517
Forest products	42,549	44,114	38,486
Ore	14,365	12,896	12,508
Merchandise l.c.l.	86,663	146,697	147,782
Miscellaneous	362,768	359,039	300,357
January 16	755,369	811,327	703,497
January 9	716,272	736,972	711,635
January 2	621,048	676,534	614,171
December 26	591,595	606,502	545,307
December 19	742,911	798,868	697,755
Cumulative Total, 3 weeks	2,092,689	2,224,833	2,029,303

In Canada.—Carloadings for the week ended January 16 totaled 61,947 as compared with 57,732 for the previous week and 63,361 for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
January 16, 1943	61,947	34,168
January 9, 1943	57,732	31,715
January 2, 1943	45,767	29,625
January 17, 1942	63,361	30,990
Cumulative Totals for Canada:		
January 16, 1943	165,446	95,508
January 17, 1942	169,243	82,195
January 18, 1941	146,163	77,757

Bills in Congress

Representative Edwin Arthur Hall, Republican of New York, has introduced H. R. 1504 which would provide for transportation home during furlough of non-commissioned officers and other enlisted men on active service. The bill, identical with S. 343 previously introduced in the Senate, would give the men travel certificates which the Treasury would redeem for the carriers.

Representative Izac, Democrat of California, has introduced H. R. 1516 to prohibit interstate common carrier pipe lines from transporting commodities in which such carriers have an interest.

In the Senate proposed amendments to the Railroad Retirement Act have been introduced by Senators McKellar of Tennessee and Andrews of Florida, Democrats. The bills are S. 527 and S. 553. Mr. McKellar has also introduced S. 526 to provide for the construction of a canal across Nicaragua.

New Edition of I. C. C.'s Accounting Classification

The 1943 edition of the Interstate Commerce Commission's Accounting Classification will be ready for distribution on or about February 1, according to a recent notice from E. H. Bunnell, vice-president of the Association of American Railroads. The revised edition contains all changes in orders of the I. C. C. to be effective January 1, 1943.

Both bound and loose-leaf volumes are available, the price being 30 cents per copy to railroads and their employees and 60 cents to others. Remittances should be sent to H. J. Forster, treasurer of the A.A.R. Transportation building, Washington, D. C.

Meanwhile the volume containing Interpretations of Accounting Classifications, consisting of Bulletin 15 cases and "A" cases, will be completely reprinted with copies available about February 28. These will be distributed to purchasers of the original loose-leaf interpretations.

Operating Unions File Demand for 30 Per Cent Wage Increase

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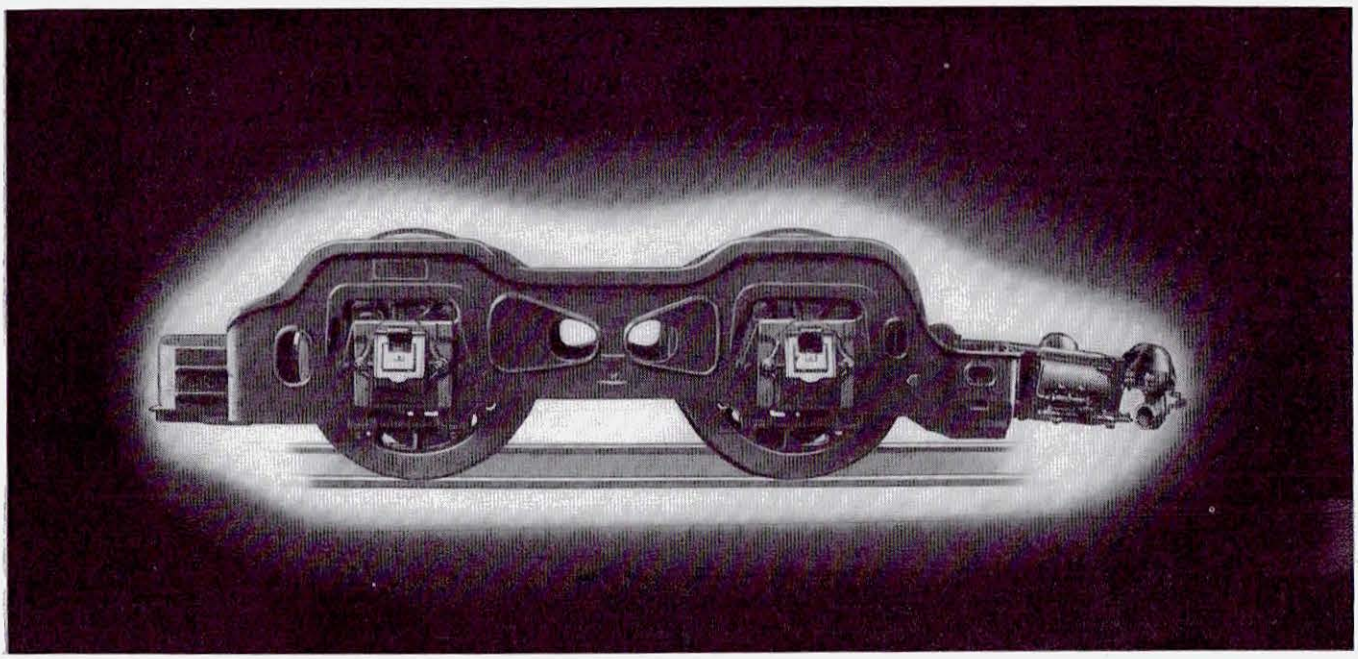
MORE TONS PER LOCOMOTIVE

WITH THE BOOSTER'S HELP



With locomotives loaded to capacity the Locomotive Booster is making it possible to move thousands of tons more freight every working day.

Booster-equipped locomotives have the extra power to get full tonnages moving and to accelerate to road speed from slow-downs.

By helping in any tight place, they are contributing importantly to the fine record of tons hauled per locomotive mile.

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dian & Eastern Engineer" and "The Model Engineer," as well as to other technical publications.

In 1917, Mr. Lake became a full-time technical member on the staff of the Railway Gazette and since that time he served with it, becoming also technical editor of the "Railway Engineer" when that publication came under control of the Gazette in 1919. Since early in 1942, when certain changes were made necessary because of the war, Mr. Lake had served as associate editor of the Gazette. He was a member of the Institute of Mechanical Engineers and of the Institution of Locomotive Engineers.

Travel Is Being Handled, Even If Not Just as Desired

"The passenger transportation job performed by the railroads in 1942 was equivalent to moving every man, woman and child in the U. S. a distance of 407 mi. - about the distance from New York to Buffalo," according to a statement made by F. E. Williamson, president of the New York Central, following a meeting of the Eastern Railroad Presidents Conference, on January 21.

Mr. Williamson went on to say that the above represented an increase of 80 per cent over the volume of passenger traffic carried in 1941 and was two and one-third times what it was in 1939.

After pointing out that one of the most important problems presented in the handling of this vastly expanded traffic was that of distributing the load, Mr. Williamson said that "a large proportion of railroad passenger cars in the country is constantly engaged in carrying troops in active service. In providing service for the civilian public with the remaining passenger equipment, the railroads find themselves today in somewhat the same position as your storekeeper. Your butcher, for instance, may not be able to supply you with the beef steak you would prefer to have, but he can, perhaps, offer you chops.

"So, too," he continued, "the railroads find themselves unable to supply just the travel accommodations you may want at the time or on the particular train, or even on the day you want it. They usually do, however, have seats and berths for those travelers who can accommodate their convenience to what may be available."

Mr. Williamson suggested that travelers would probably find accommodations available from Monday noon through Friday, with the possible exception, of course, on certain lines where the density of passenger traffic between major cities is constant throughout the week.

Would Give B. & M. Affiliate More "Grandfather" Rights

"Grandfather" clause certificates covering common carrier trucking operations over 10 additional routes between points in Massachusetts and New Hampshire would be granted the Boston & Maine Transportation Company, affiliate of the Boston & Maine, if the Interstate Commerce Commission adopts a proposed report submitted by Examiner Paul R. Naefe. The claimed rights are those which were not passed upon by the full commission last year when it reversed Division 5 to grant the B. & M. T. certificates covering the bulk of its trucking services which on the "grandfather" date (June 1, 1935) were being conducted under contractual arrangements with independent vehicle operators.

That decision, as noted in the *Railway Age* of September 5, 1942, page 382, gave the railroad affiliate rights on some 27 routes which had been operated by Big Three, Inc., its largest contract trucker and the only one with which it had a written contract. Involved in Naefe's report are the routes which on the "grandfather" date were operated by the second largest contractor—N. F. Smith & Company. Here the contracts were oral arrangements, and the commission did not pass upon them in the prior report because it found that the record on the B. & M. T.-Smith relationship was not in harmony with that in the proceeding wherein Smith was seeking a certificate. Accordingly, both proceedings were reopened for further hearing.

The proposed report finds that the oral arrangements with Smith were substantially the same as those provided in the written contract with Big Three; and thus the B. & M. T.'s claim to rights on the Smith routes met, as adequately as did its claims on the Big Three routes, the requirements of the Dixie Ohio case rule. That rule stipulates that where an applicant claims common-carrier status and does not own the vehicles, the "controlling question" is whether the vehicles of the other carrier were operated "under applicant's direction and control and under its responsibility to the general public as well as the shipper." The proposed report is a recommended report and order on further hearing in No. MC-75872.

Fletcher Sees Opportunities for Rail-Truck Cooperation

A suggestion that the railroad and trucking industries might well focus their attention on the solution of problems which they have in common while at the same time avoiding "sniping" at each other was made last week by Judge R. V. Fletcher, vice-president of the Association of American Railroads. The suggestion came in an extemporaneous talk made in Washington at a luncheon meeting of the D. C. Trucking Association.

Judge Fletcher was endorsing remarks along the same line which had been made by W. E. Humphreys, president of the Association; and the A. A. R. vice-president then went on to elaborate on the idea. Things which the railroads and truckers have in common, he said, include the problem of combatting the attempt of the Office of Price Administration to have the Ex Parte 148 rate increases rescinded; the wage problem, including the current demand for increases; and problems in connection with Department of Justice moves to prosecute transportation agencies under the anti-trust laws.

With respect to the latter, Judge Fletcher suggested that it may be necessary to seek legislation to make carriers who follow Interstate Commerce Commission rules will be immune from anti-trust prosecution. Also he called for a cooperative approach to problems of the post-war period when, he predicted, the competition may not be too healthy for either the railroads or the trucks. While he regards as farfetched some of the visions of post-war aviation, the A. A. R. vice-president nevertheless anticipates that there will be startling and unusual developments in air freight movement.

Ted V. Rodgers, president of American Trucking Associations, agreed that railroads and truckers have many problems in common, and continued to assert that "sniping" is a waste of money. The trucking industry, he added, must always advocate what is fair and ask only what is right. He hopes that both industries will proceed along the lines suggested by Judge Fletcher.

Would Let H. & M. Charge 10 Cents on Downtown N. Y. Routes

Making his proposed report on further hearing in the I. & S. No. 4394 proceeding, Examiner R. N. Trezise has recommended that the Interstate Commerce Commission reverse its previous decision with a finding that the Hudson & Manhattan has justified a 10-cent fare between Jersey City, N. J., and Hoboken, and Hudson Terminal, New York. In the prior report the commission authorized an increase in the fare from six cents to eight cents, and the eight-cent fare became effective July 25, 1938.

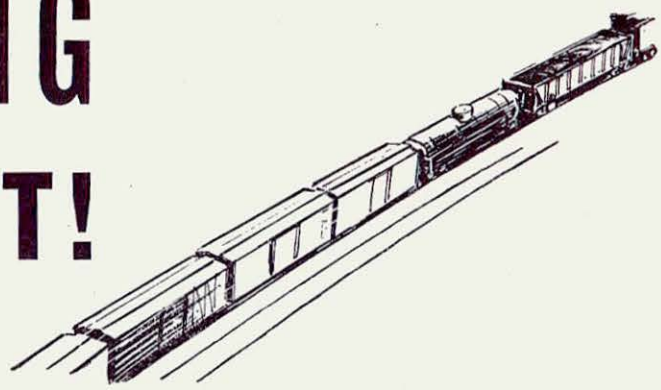
The refusal of that report to authorize the 10-cent fare was contested in court by the applicant, but the United States district court's decision upholding the commission was finally affirmed by the Supreme Court. Meanwhile the Ex Parte 148 increase of 10 per cent in passenger fares came along last February, and this would have authorized the H. & M. to raise its downtown fare from eight to nine cents, and the fare into its Thirty-third street terminal from 10 cents to 11 cents. It did not, however, avail itself of this authority, preferring instead to leave the uptown fare at 10 cents while renewing its efforts to put the downtown fare on the same basis.

Examiner Trezise finds that the applicant had made a showing supporting the increase on the basis of revenue needs. He estimated that the road would need $1,266,000 more in revenue than it collected in 1941 if it is to overcome recent annual deficits of about $800,000 a year and provide "at least $466,500" for increased costs and necessary reserves. Conditions, the examiner said, have "materially changed" since the commission in the prior report decided that "the revenue results to respondent, especially over an extended period of time, would be more favorable under an eight-cent than under a 10-cent fare on the downtown line." He went on to point out that such wartime conditions as the restrictions on private automobile travel and the expansion of industry in H. & M. territory "have arrested the decline of respondent's traffic and actually augmented it."

Leading up to his recommended finding, Mr. Trezise discusses at some length the

News Department continued on next left-hand page

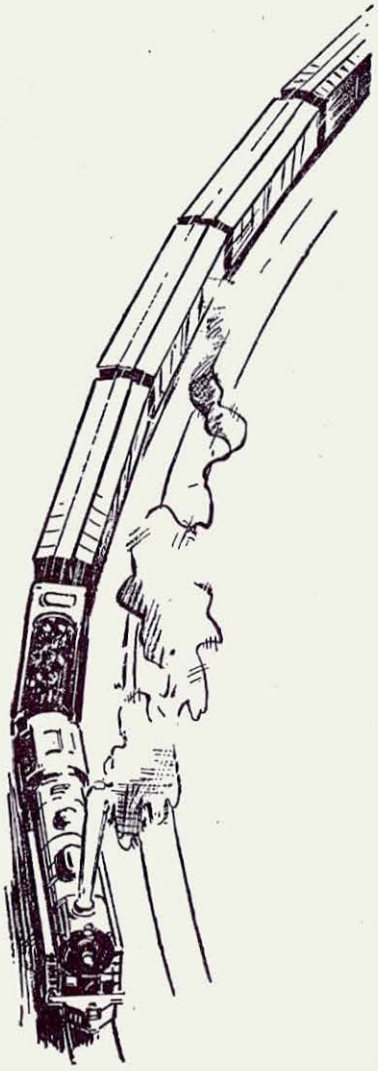
FUEL SAVING
AN ARCH HABIT!

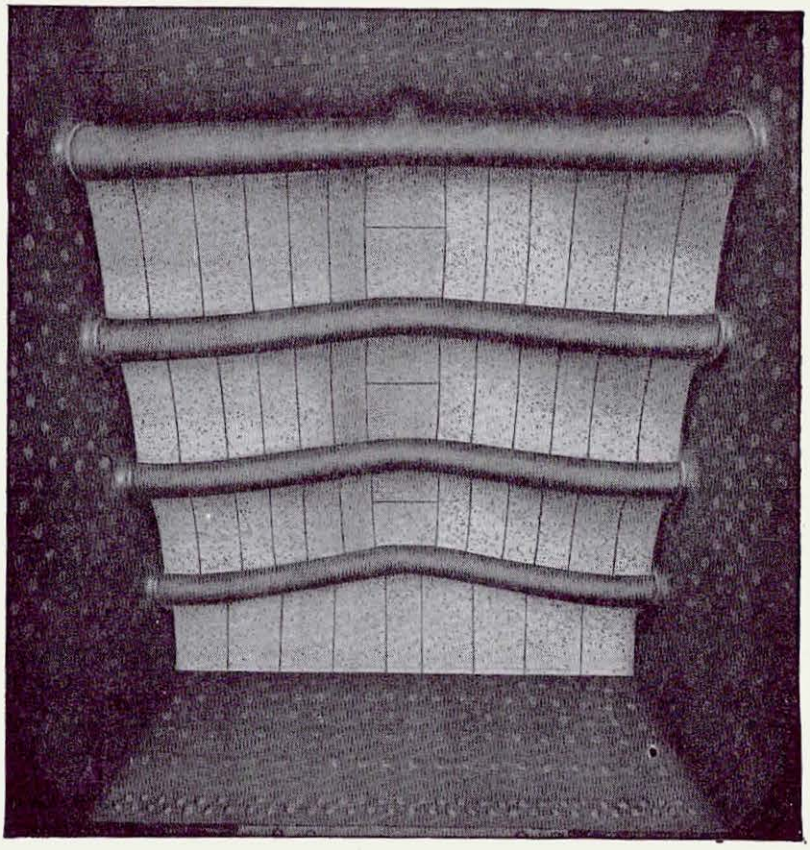


Over 32 years ago railroad men satisfied themselves as to the fuel saving of the locomotive Arch.

Since then the increase in locomotive power, higher rates of combustion and the widespread use of stokers has increased the fuel savings attributable to the Arch.

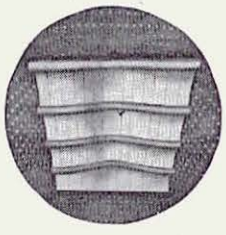
Today, when conservation of fuel is so vitally important to our war effort, don't handicap the effectiveness of the Arch by skimping on Arch brick. When your locomotives leave the roundhouse, be sure they are equipped with a *complete* Arch.





HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

presentation in opposition to the increase which was made by the Office of Price Administration. Also, he appraises the prior report's suggestion that H. & M. might seek to obtain larger divisions under its arrangements with the Pennsylvania. "Ample reasons for respondent's reluctance to seek higher divisions of joint rates have been advanced on the present record," he said.

Railroad Employee Security Program

(*Continued from page 296*)

respect to the 1.8 per cent assessment for workmen's compensation would be a provision authorizing the Board to change the rate if necessary to finance the program. Other proposals on the financing side include a provision which would make the Retirement Board instead of the Bureau of Internal Revenue the collecter of the retirement tax, just as it now collects the unemployment tax and would become collector of the workmen's compensation tax. Also, the Unemployment Insurance Act amendment which would increase from $6,000,000 to $10,000,000 the upper limit on the balance which can be kept in the unemployment insurance administration fund.

The Board is understood to feel that the proposed increase of five per cent in the retirement tax will support the liberalized retirement system, while at the same time making some contribution toward establishing that system on a sounder actuarial basis than it has been. This would seem to contemplate other favorable financial developments; for the Board's Actuarial Advisory Committee found in 1940 that the then-current tax of six per cent would have to be increased to 11.11 per cent if it were to maintain a fund adequate to support the existing benefits.

The Board's annual report for the fiscal year ended June 30, 1941, said, however, that favorable changes in the amount of taxable payrolls and the number of annuities had "strengthened" the system. Such developments have persisted as employment has continued to rise and prospective annuitants have been encouraged to remain in service.

The Board's problem with respect to the unemployment insurance fund has been the reverse. From the outset, this fund (provided from taxes paid entirely by carriers) has been greatly in excess of the benefit requirements, and this has remained true despite the more liberal benefits provided by the 1940 amendments. Yet Chairman Murray W. Latimer of the Board has consistently opposed carrier efforts to have the tax reduced. As of December 31, the fund had reached a total of $319,240,000.

THE CANADIAN PACIFIC reports that one-fifth of its total of 65,000 employees are now engaged in active military service. Of the 14,062 employees in the service, 7,949 are from the railway, the remainder being made up of employees from its steamship and air lines. In Montreal the C. P. R. has recruited a company of its own employees, totaling 90, to serve with the Royal Rifles of Canada under the command of Capt. E. H. Kent.

Abandonments

ATLANTIC COAST LINE.—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its branch from Eutawville, S. C., to Lennard, 3.3 miles.

CHESAPEAKE & OHIO.—This road has applied to the Interstate Commerce Commission for authority to abandon its ferry operation across the Ohio river between Trinity, Ky., and Manchester, Ohio.

CHICAGO, ROCK ISLAND & PACIFIC. In a proposed report in Finance Docket 13835 Examiner Jerome K. Lyle has recommended to the Interstate Commerce Commission that this road's application for authority to abandon part of a branch line from Deshler, Neb., to Ruskin, 8.06 miles, be denied without prejudice to renewal of the application after the end of 1943 if expected improvement in business does not materialize.

DENVER & RIO GRANDE WESTERN. This road has applied to the Interstate Commerce Commission for authority to abandon a 1.3 mile section of its Little Cottonwood Branch in Salt Lake County, Utah.

ILLINOIS CENTRAL. In a proposed report in Finance Docket 13804 Examiner R. Romero has recommended that the Interstate Commerce Commission deny the application of this company to abandon operation of a branch from Stacyville Junction, Iowa, to Stacyville, 7.85 miles, and the application of the Dubuque & Sioux City to abandon the same line, on the ground that some increases in traffic are anticipated that would warrant continued operation.

ILLINOIS CENTRAL.—In a proposed report in Finance Docket 13909 Examiner J. S. Prichard has recommended that the Interstate Commerce Commission deny the application of this road's subsidiary, the Yazoo & Mississippi Valley, for authority to abandon a line from Ethel, Miss., to Clinton, 8.34 miles, on the ground that the tributary territory has sufficient traffic to warrant continued operation of the branch, which was built in 1839.

READING.—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its 0.948-mile Furnace branch at Leesport, Pa.

SOUTHERN PACIFIC.—The Petaluma & Santa Rosa, a wholly owned subsidiary of the Northwestern Pacific, which in turn is a wholly owned subsidiary of this company, was denied authority to abandon its electrified branch from Liberty, Calif., to a point near Two Rock, 5.43 miles, by Division 4 of the Interstate Commerce Commission on the ground that its continued operation would not impose a burden on interstate commerce.

UNION PACIFIC.—Division 4 of the Interstate Commerce Commission has denied the application of this company and the Oregon-Washington Railroad & Navigation, lessor, for authority to abandon operation of and to abandon, respectively, a branch line from Vale, Ore., to Brogan, 23.737 miles, on the ground that its continued operation has not been shown necessarily to involve a loss.

Equipment and Supplies

LOCOMOTIVES

NASHVILLE, CHATTANOOGA & ST. LOUIS. The War Production Board has authorized the American Locomotive Company to build 10 steam freight locomotives of 4-8-4 wheel arrangement for the Nashville, Chattanooga & St. Louis. The order for these locomotives was placed in November, 1942, and is included in the list of locomotive orders placed in 1942, as reported in the Annual Statistical and Outlook Number of the *Railway Age*.

FREIGHT CARS

THE CHICAGO & NORTH WESTERN is reported to be inquiring for 250 ore cars of 70 tons' capacity.

THE NORTHERN PACIFIC has ordered 300 flat cars of 50 tons' capacity from the American Car & Foundry Co. War Production Board approval for the construction of these cars is reported to have been received. The inquiry for this equipment was reported in the *Railway Age* of December 12, 1942.

THE ATCHISON, TOPEKA & SANTA FE is reported to have ordered 200 gondola cars of 70 tons' capacity from the Pullman-Standard Car Manufacturing Company. War Production Board authorization for the construction of these cars is reported to have been received. The inquiry for this equipment was reported in the *Railway Age* of January 9.

THE PENNSYLVANIA will build in its own shops 1,000 heavy-duty gondola cars of 70 tons' capacity with wood planking used temporarily in the side sections to conserve steel. War Production Board approval has been obtained for construction of the cars, which have been designed so that after the war the plank side sections can be replaced readily with steel plates, which will assure the long-term durability of all-steel construction. The underframe and trucks are of steel, and steel posts and braces are provided for the temporary plank side sections. (The railroad already has in operation 1,500 open-top freight cars of composite wood and steel design which also incorporate provision for replacing the plank sections with steel after the war. Of these, 500 are 70-ton gondolas, 500 are 50-ton gondolas and 500 are 50-ton hopper cars.)

The construction program calls for all of the new cars to be in service during the first half of 1943. Total cost is estimated at $3,150,000.

News Department continued on next left-hand page

A Robert Yarnall Richie Photograph

MAXIMUM SUPERHEAT IS POSSIBLE ONLY WHEN THE SUPERHEATER IS WELL MAINTAINED . . . THAT MEANS DEPENDABLE SERVICE.

A-1560

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Construction

ERIE. The following construction projects, each amounting to more than $20,000, have been authorized by this road: Main track relocator on an improved alignment away from the mountainside at Long Eddy, N. Y.; strengthening of bridges for the operation of heavier locomotives between Marion, Ohio, and Chicago; installation of 100-ft. turntable and extension of roundhouse stalls at Hammond, Ind.; construction of wye tracks at Huntington, Ind.; rearrangement of tracks at Sesquehanna, Pa.; renewal of bulkhead dock along south bank of Cuyahoga River, and construction of bulkhead dock, 400 ft. in length, at Cleveland, Ohio; track connection to serve the ordnance plant at Marion, Ohio.

PENNSYLVANIA. This road plans extensive improvements on the main line between Chicago and Crestline, Ohio, which will provide additional yard trackage and main line sidings, together with water, coaling and other supporting facilities, at a total cost of nearly 2½ million dollars. These betterments, which will further facilitate the handling of wartime freight and passenger traffic over the Chicago-New York 908-mile main line, will be constructed at nine points, five in Indiana and four in Ohio.

The Pennsylvania's extensive yard layouts at Fort Wayne, Ind., and Crestline will be enlarged and new facilities installed. Improvements at Fort Wayne, totaling approximately $525,000, provide for ten relay tracks of 125 cars capacity each, five in the eastward yard and five in the westward yard, and water, coaling and ash pit facilities. Five eastward and five westward relay tracks, each of 150 cars capacity, will be constructed at Crestline and these betterments, together with additional trackage in the present eastward and westward yards, car repair facilities, inspection pits and auxiliary coaling facilities at the locomotive terminal, will cost approximately 1 million dollars.

With the completion of the relay tracks and supporting facilities in Fort Wayne and Crestline, many freight trains will stop only long enough to change engine and train crews, expediting the movement of freight traffic, as well as passenger traffic.

A new freight yard of 600 cars capacity, which will be known as Riley Road yard, will be constructed along the main line one mile west of Indiana Harbor and one mile east of Whiting. This new facility, costing $300,000, will handle local industrial traffic in the East Chicago-Calumet territory which now is handled in Colehour yard, three miles west of the site of the new yard. When the Riley Road yard is completed, Colehour yard will be used largely for road-haul traffic.

The remaining $650,000 included in the program will be used to construct new main line sidings and to extend present siding facilities. The six points involved in this siding program are Hobart, Ind., Hamlet and Monroeville, and Bucyrus, Ohio, Richey and Dola.

WAR DEPARTMENT.—The U. S. Engineer office, Fort San Houston, Tex., has awarded a contract amounting to less than $50,000 to the Austin Bridge Company, Dallas, Tex., for the construction of railway tracks in Texas. The U. S. Engineer office, Baltimore, Md., has awarded a contract amounting to less than $50,000 to Palmer & Lamdin, Baltimore, Md., for architect-engineer services for the construction of roads and railroads in Maryland. The U. S. Engineer office, Rock Island, Ill., has awarded a contract amounting to less than $50,000 to the Priester Construction Company, Davenport, Iowa, for the grading of railroad trackage and the construction of a platform in Illinois.

Supply Trade

M. C. Morgan, formerly field service engineer, has been appointed assistant Pittsburgh, Pa., division sales manager of the **A. M. Byers Company.**

The Peoria, Ill., and the Stockton, Cal., plants of **R. G. LeTourneau, Inc.,** were presented with the Army-Navy "E," for high achievement in the production of war material, on January 6.

James R. Hewitt, formerly assistant to the vice-president, has been appointed vice-president of the **American Manganese Steel** division of the American Brake Shoe & Foundry Co.

The DeVilbiss Company and its employees were presented with the Army-Navy "E" award for high achievement in the production of materials of war at its Toledo, Ohio, plant on January 11.

F. B. Lounsberry, vice-president in charge of manufacturing of the **Allegheny Ludlum Steel Corporation,** has transferred his headquarters from Watervliet, N. Y., to the company's general offices at Brackenridge, Pa.

The **Electro-Motive Division of the General Motors Corporation,** LaGrange, Ill., and the **Union Asbestos & Rubber Co.,** Chicago, have been selected to receive the Army-Navy "E" award in recognition of outstanding performance in war work.

Don B. Alexander and **R. O. Nash** have been appointed special representatives, railroad division, of the **Socony-Vacuum Oil Company,** with headquarters in Cleveland, Ohio, and St. Louis, Mo., respectively.

The Hammond (Ind.) plant of the **Pullman-Standard Car Manufacturing Company** was presented the Army-Navy "E" award on January 15 by Col. M. E. Wilson, head of the manufacturing division of the Tank-Automotive center at Detroit, Mich. Col. Wilson told officers and employees of the company that the M-4 tank which they are building was "the finest of its kind in the world, surpassing anything now owned by the enemy!" Capt. Wallace R. Dowd, U. S. N., supervisor of shipbuilding in the Chicago area, presented "E" pins to six employees in a token presentation for the entire employee group, and extended the Navy's congratulations on the company's production record. C. A. Liddle, president of Pullman-Standard, accepted the pennant for the company, and Lester Thayden, president of the United Steel Workers of America, Local 2534, accepted the pins on behalf of the employees. This is the second plant of the Pullman-Standard Manufacturing Company to win the Army-Navy "E," the Butler, Pa., plant having received the award on October 27.

Carl S. Clingman, general sales manager of the Transportation department of the **Johns-Manville Sales Corporation,** has been elected a vice-president of the company. **Albert C. Pickett,** formerly assistant sales manager of the western division of the transportation department, has been appointed sales manager, western division, with headquarters at Chicago; **John D. Johnson,** formerly central division sales manager, has been appointed acting sales manager, eastern division, with headquarters at New York, to succeed **P. E. Redding,** who has been called to active

Carl S. Clingman

duty as a lieutenant in the U. S. Naval Reserve; and **Fred Fix** has been appointed acting sales manager of the central division, with headquarters at Cleveland, Ohio, to replace Mr. Johnson.

Mr. Clingman was educated at Northwestern university. He began his business career in 1904 as an apprentice with the Pullman Company, and was promoted to assistant general shop foreman at the Pullman, Ill., works in 1907. He was transferred to Wilmington, Del., as eastern mechanical inspector in 1908 and was promoted to general mechanical inspector at Chicago in 1909. He entered the service of Johns-Manville in 1917, as sales representative in the southwest. He was appointed sales manager of the western region in 1933, and general sales manager of the transportation department, with headquarters in Chicago, in 1935. As vice-president, Mr. Clingman will also continue in his previous capacity as general sales manager of the transportation department.

Mr. Pickett joined the engineering department of the Missouri-Kansas-Texas in 1916, remaining there until 1917, when he was transferred to the stores department and made storekeeper at Trinity, Tex. Af-

ter serving in the Army during World War I, he returned to the M-K-T in 1920 to serve on the staff of the chief engineer. He joined the Johns-Manville Sales Corporation as sales representative in 1922, and was appointed division sales manager of the southwestern division, with headquarters at St. Louis, Mo., in 1933. He resigned from Johns-Manville in 1939, returning in 1941, as assistant division sales manager of the western division.

Mr. Johnson received his early mechanical and engineering training in railroad service, working in the mechanical departments of the New York Central, the Missouri Pacific, and the Baltimore & Ohio from 1907 to 1919. He entered the service of Johns-Manville as a salesman in the transportation department in 1920 and was appointed division sales manager of the central division in 1930.

After completing his schooling, Mr. Fix entered the service of the New York Central at Cleveland and joined the transportation department nf Johns-Manville in that city in 1924.

The Copperweld Steel Company has consolidated its former southwestern and southeastern districts into a new southern district under the supervision of **E. B. Patterson,** southern sales manager, with offices at Memphis, Tenn. The new district comprises the states of New Mexico, Texas, Oklahoma, Louisiana, Arkansas, Tennessee, Mississippi, Alabama, Georgia, North Carolina, South Carolina and Florida. Southern district branch offices will be maintained at Dallas, Tex., and Atlanta, Ga.

OBITUARY

Joseph S. Stockdale, district sales manager, Wood Preserving Division, Koppers Company, Pittsburgh, Pa., died suddenly on January 19, at the age of 57. Mr. Stockdale started his business career in the engineering department of the Pittsburgh & Lake Erie Railway, resigning in 1912 to become associated with the sales department of the Pittsburgh Wood Preserving Company, which later was absorbed by the Century Wood Preserving Company, and then The Wood Preserving Corporation, now a division of Koppers Company. Mr. Stockdale helped in the early development of the wood preserving industry and for many years was active in the work of the American Wood Preservers' Association.

TRADE PUBLICATIONS

"Railroad Cleaning Handbook."—This twenty-six page illustrated handbook issued by the Magnus Chemical Company, Inc., Dept. REE, Garwood, N. J., is in four sections. They discuss Cleaning Problems of: General Repair Shops (cleaning Diesel engine parts, air pumps, vats, and grinding chilled-steel car wheels); Paint Shop (stripping paint from rolling stock); Terminal Yard (cleaning coach interiors and exteriors, upholstery, etc.); Other Railroad Cleaning Problems (radiator and cooling systems, floor and window cleaning, and control of industrial dermatoses).

Financial

Baltimore & Ohio-Alton.—*Intervention of Bondholders.*—A group of insurance companies representing $15,727,000 of the Alton's 3 per cent gold bonds has been authorized by Division 4 of the Interstate Commerce Commission to intervene in proceedings before it in that company's reorganization.

Baltimore & Ohio-Alton.—*Trustee for Alton Approved.*—Division 4 of the Interstate Commerce Commission has ratified the appointment by the United States District Court of Henry A. Gardner to serve as trustee of the Alton in its reorganization under section 77 of the Bankruptcy Act at a salary of $20,000 per year.

Boston & Albany.—*New Director.*—R. Oakley Kennedy, vice-president of Cluett, Peabody & Co., Inc., has been elected a director of the Boston & Albany.

Great Northern.—*Purchase of Spokane, Coeur d'Alene & Palouse.*—This company has applied to the Interstate Commerce Commission for authority to acquire by purchase the property of its wholly owned subsidiary, the Spokane, Coeur d'Alene & Palouse, at a net cost of $1,404,201, which is to be applied against outstanding liabilities, including indebtedness to the parent company. The purpose of the acquisition is simplification of capital structure.

Louisiana & Arkansas. — *Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized this company to continue operation under trackage rights over a line of the Texas & Pacific between Lobdell, La., and Torras, about 48 miles, under an amended agreement which provides for maintenance and betterments by the applicant.

Missouri Pacific. — *Equipment Trust Certificates.*—At the request of the applicant, Division 4 of the Interstate Commerce Commission has dismissed this company's application for authority to assume liability for $2,240,000 of equipment trust certificates, series HH.

New York, Ontario & Western.—*Promissory Note.*—This road has applied to the Interstate Commerce Commission for authority to issue to the Delaware & Hudson Company a promissory note in the amount of $68,746.24, payable in 18 months without interest, except two per cent on any balance that remains unpaid after the maturity date. The note would be issued in lieu of a previous one, dated October 27, 1942, "to remove any question as to the legality of the obligation." The proceeds were used to pay real estate taxes levied on the properties of the Utica, Clinton & Binghampton.

Missouri Pacific.—*Equipment Trust Certificates of the St. Louis, Brownsville & Mexico.*—At the request of the applicant, the Interstate Commerce Commission, Division 4, has dismissed its request for authority to assume liability for $1,290,000 of equipment trust certificates, of series AA.

Equipment Trust Certificates of the Missouri-Illinois.—At the applicant's request, Division 4 of the Interstate Commerce Commission has dismissed its application for authority to assume liability for $390,000 of equipment trust certificates, series BB.

Equipment Trust Certificates of the International-Great Northern.—At the applicant's request, Division 4 of the Interstate Commerce Commission has dismissed its application for authority to assume liability for $630,000 of equipment trust certificates, series AA.

Pere Marquette.—*Dividend Statement.*—Robert J. Bowman, president, on January 21 stated that the railroad could not consider dividend payments on its prior preference, preferred and common stock, as earnings must be reserved against maturities of more than $40,000,000 due by 1956. Mr. Bowman pointed out that in five of the years since 1930 the railroad failed to earn its fixed charges and that if the Chesapeake & Ohio had not come to its rescue in 1938, the Pere Marquette may have been compelled to apply to the courts. Stockholders of the Pere Marquette have not received dividends since the last prior preference dividend was declared in 1937. Preferred and common stockholders have not received dividends since 1931.

Tennessee Central. — *Extension of Loan.*—This company has applied to the Interstate Commerce Commission for an extension of the time limit on its authority to pledge $200,000 of its first mortgage 4 per cent series A bonds as collateral for short-term loans.

Union Pacific.—*Installment Notes.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $4,100,098 of promissory notes, payable in installments, in evidence of, but not in payment for, amounts due on certain equipment contracts, in order to effect excess profits tax savings estimated to amount to $30,000 in 1943.

Virginian.—*New Chairman.* — G. D. Brooke has been elected chairman of the board, to succeed W. R. Coe, who continues as chairman of the executive committee.

Average Price of Stocks and Bonds

	Jan. 26	Last week	Last year
Average price of 20 representative railways stocks..	30.39	29.99	29.51
Average price of 20 representative railway bonds..	70.96	70.02	66.41

Dividends Declared

Chattahoochee & Gulf.—Irregular, $2.00, payable January 20 to holders of record January 15.

Culver & Port Clinton.—10c, semi-annually, payable February 16 and August 16 to holders of record January 22 and July 22, respectively.

Erie & Kalamazoo.—$1.50, semi-annually, payable February 1 to holders of record January 26.

Louisville & Nashville.—Irregular, $2.00, payable March 3 to holders of record February 1.

Louisville Henderson & St. Louis.—Common, $4.00, semi-annually; 5 Per Cent Non-Cumulative Preferred, $2.50, semi-annually, both payable February 15 to holders of record February 1.

Norfolk & Western.—$2.50, quarterly, payable March 19 to holders of record February 27.

Peoria & Bureau Valley.—Irregular, $2.50, payable February 10 to holders of record January 20.

Portland.—$2.50, semi-annually, payable February 10 to holders of record January 23.

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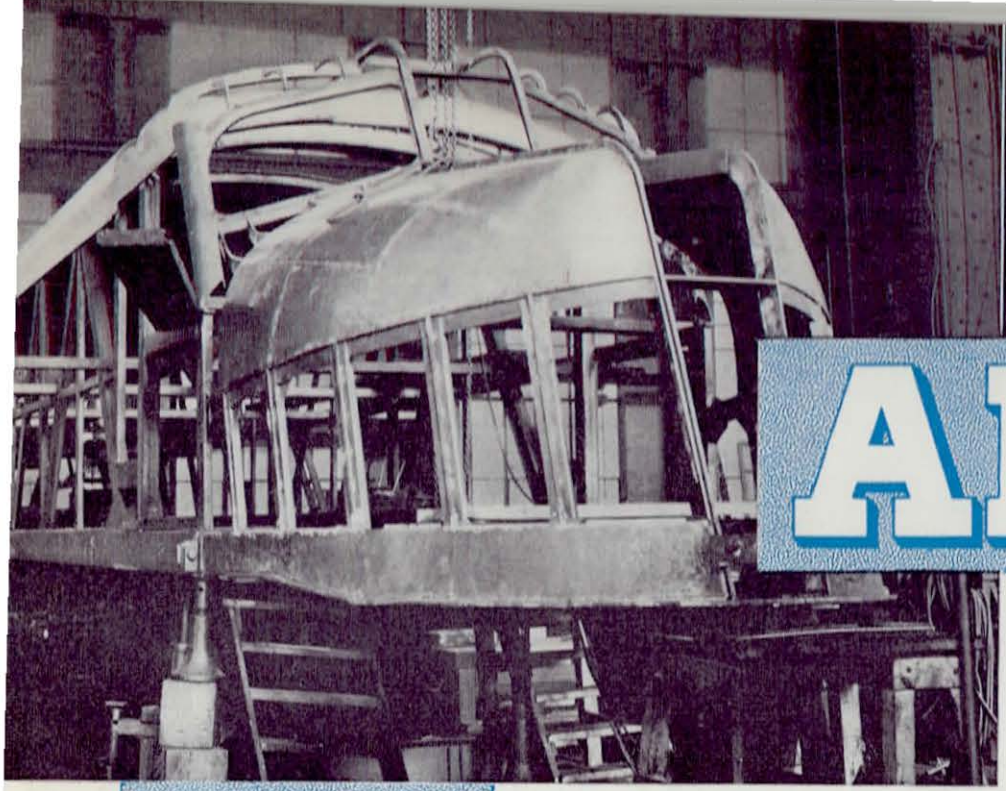

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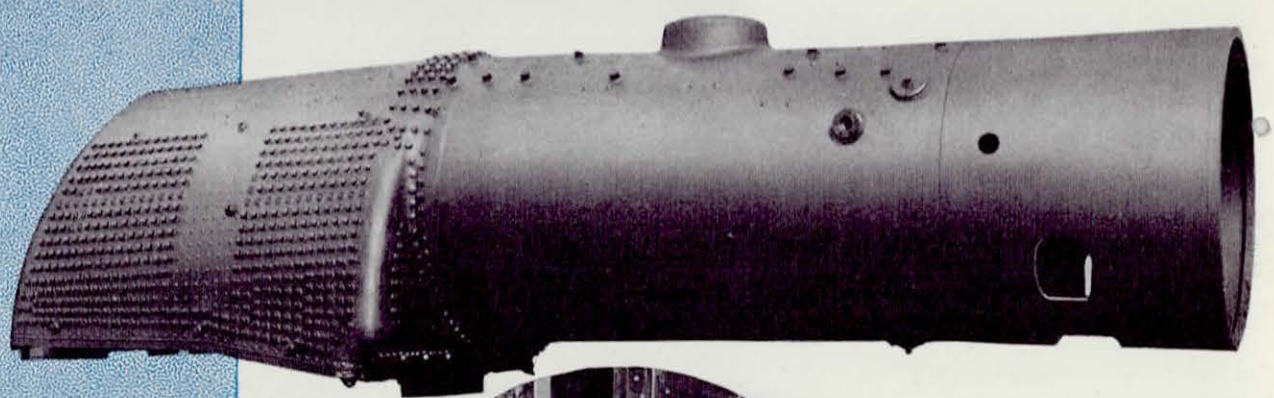

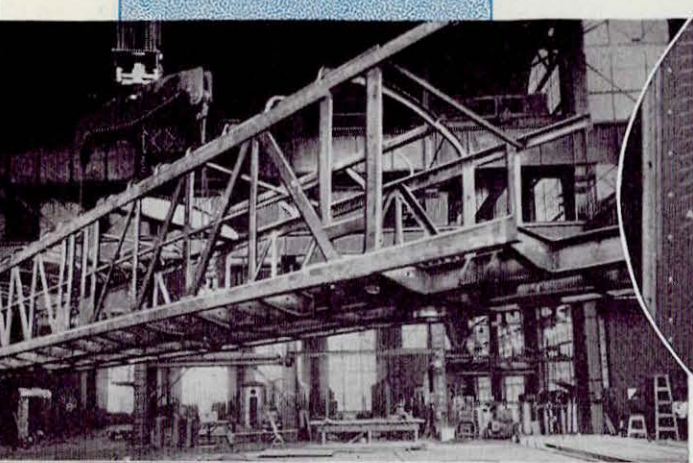

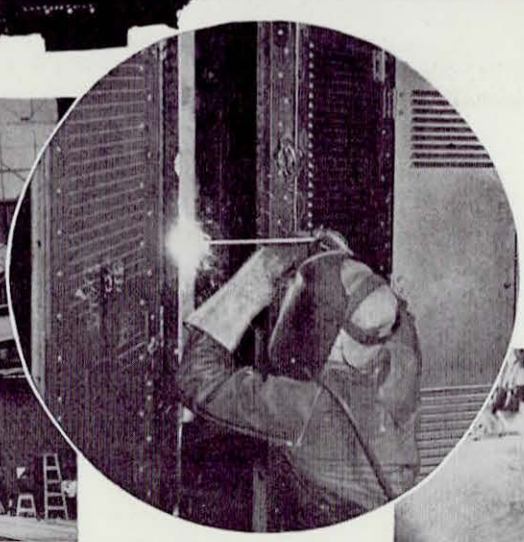

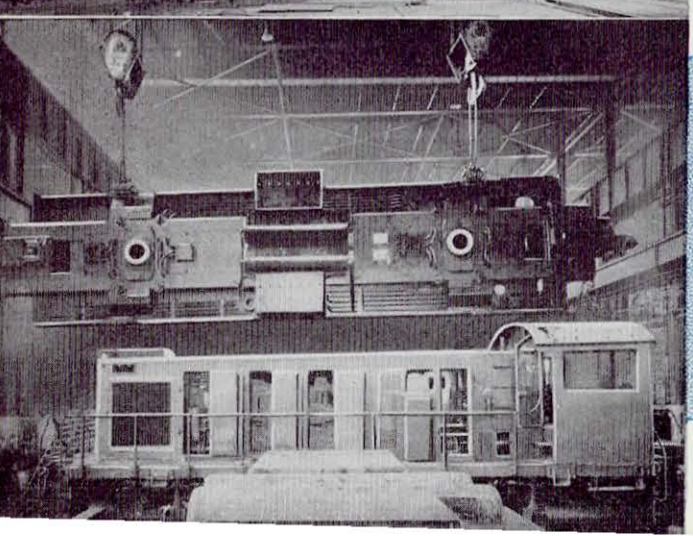

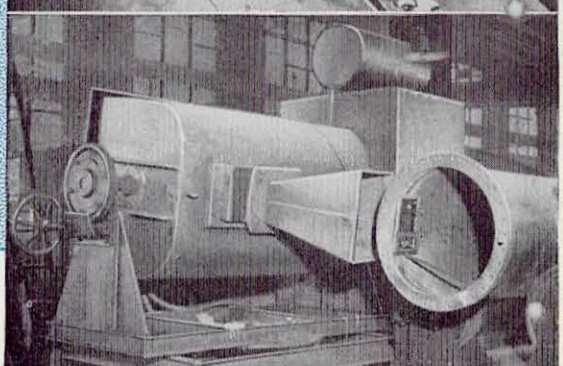

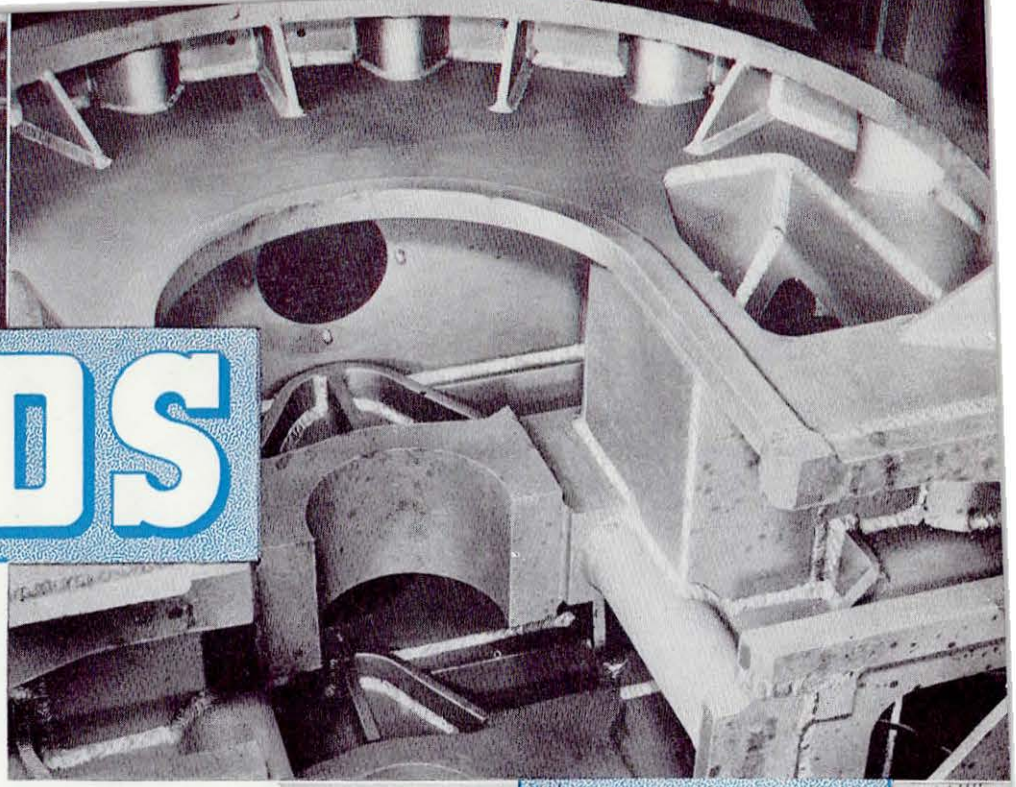

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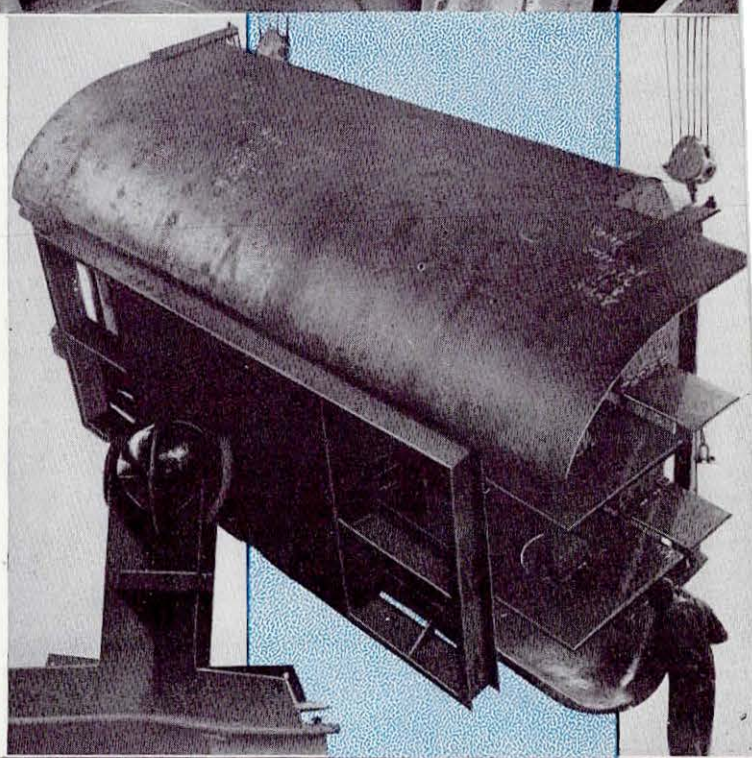

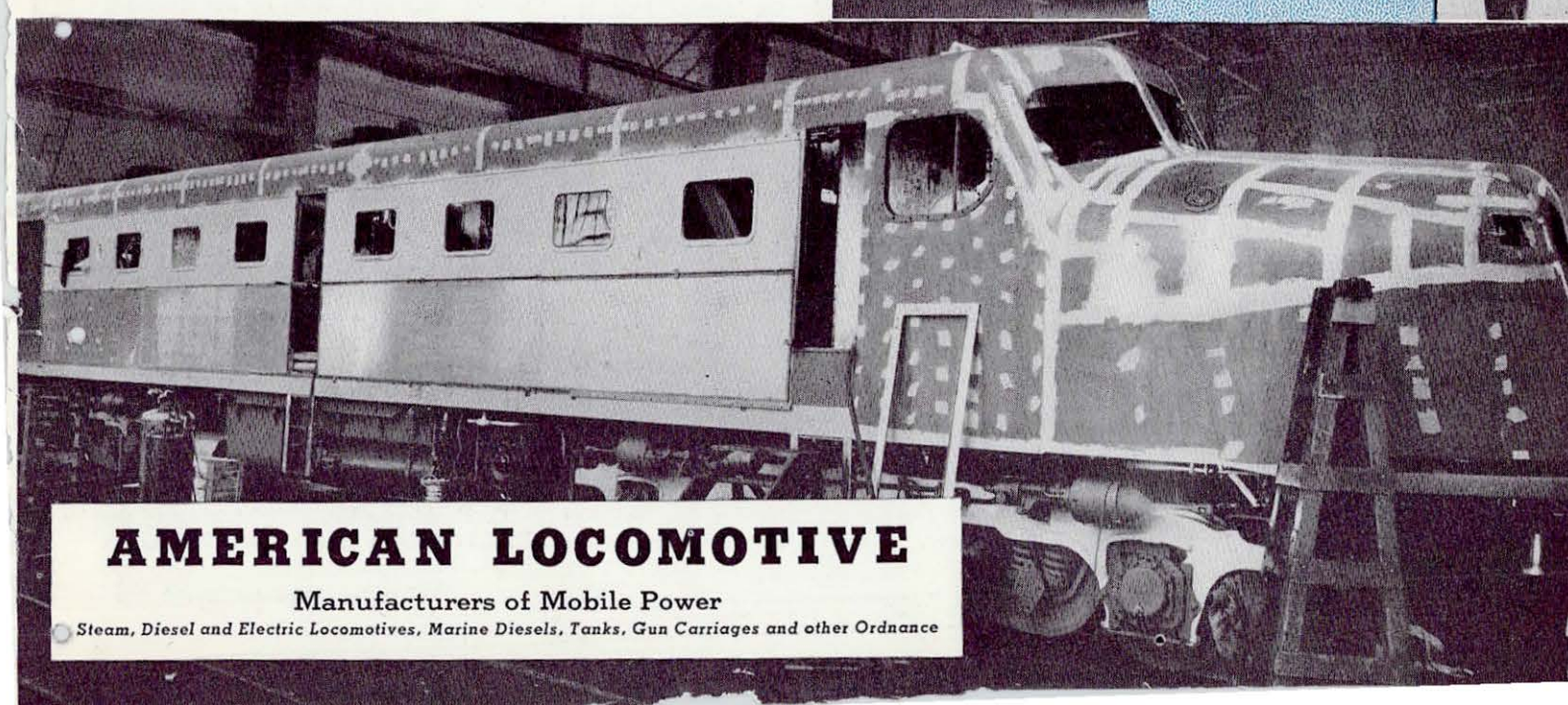

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Railway Officers

EXECUTIVE

M. & St. L. Reorganization

As the final step in the reorganization of the Minneapolis & St. Louis, four executives of that road have been elected vice-presidents. **J. W. Devins** has been appointed vice-president and general manager, with headquarters at Minneapolis, Minn. **H. W. Ward** becomes vice-president and general traffic manager, with headquarters at Minneapolis. **C. W. Wright** is appointed vice-president and general counsel, with headquarters at Minneapolis. **J. J. O'Brien** becomes vice-president and secretary, with headquarters at New York.

John M. Davis, chairman of the board of managers of the Delaware, Lackawanna & Western, with headquarters at New York, has asked to be relieved of his active duties at the end of January. Mr. Davis retired from active service under the company's pension regulations, but, at the request of the board of managers, he will continue as a member of the board and its executive committee.

David E. Gelatt, assistant to the vice-president of freight traffic of the New York Central System, with headquarters at New York, has retired, effective January 31. Born on January 15, 1873, at Susquehanna, Pa., Mr. Gelatt entered railroad service in May, 1893, as a stenographer in the office of the general Eastern passenger agent of the New York Central & Hudson River (now New York Central). In October, 1893, he was transferred to the office of the general freight agent, and has spent the remainder of his career in the freight traffic department. After serving in various positions as clerk and agent, he was appointed general freight agent in 1920, becoming general coal freight agent in 1923, and assistant freight traffic manager in 1925. Mr. Gelatt was appointed freight traffic manager in 1929, and on January 15, 1941, was promoted to assistant to the vice-president of freight traffic.

FINANCIAL, LEGAL AND ACCOUNTING

William J. Heckmann, chief clerk of the freight claim department of the Illinois Central, has been promoted to assistant general claims attorney, with headquarters as before at Chicago.

P. A. Fitzmaurice, auditor of the Butte, Anaconda & Pacific, has been promoted to assistant secretary-treasurer, with headquarters as before at Anaconda, Mont. He succeeds **O. L. Dillenbeck,** who has retired. **J. J. McNulty** has been appointed assistant auditor, with headquarters at Anaconda.

T. F. Darby, agent of the Central Vermont at Windsor, Ont., has been appointed acting claims agent at St. Albans, Vt., succeeding **A. P. Warren,** whose promotion to acting auditor at St. Albans was announced in the *Railway Age* of January 23. In his new capacity, Mr. Darby will handle personal injury and property damage claims with supervision over claims prevention matters.

William J. Milroy, whose promotion to general attorney of the Atchison, Topeka & Santa Fe, with headquarters at Chicago, was reported in the *Railway Age* of January 9, was born at Wichita, Kan., on April 10, 1891. He was educated at St. Bede's college, Peru, Ill., and received his law degree at Notre Dame. Mr. Milroy entered railroad service in 1936, as attorney of the Santa Fe, specializing in tax and personal injury litigation. He held this position until his new appointment, effective January 1.

William J. Milroy

Lyman A. Brewer, whose promotion to general claim agent of the Wabash, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of January 23, was born at Toledo, Ill., on February 1, 1899. He entered railroad service at Philadelphia, Pa., as a freight checker of the Baltimore & Ohio in November, 1916, returning to that road in 1921 as a stenographer, with headquarters at St. Louis after serving overseas with the Signal Corps during World War I. On May 10, 1922, Mr. Brewer became a stenographer in the office of the president of the Wabash and, in 1931, he graduated from the Benton College of Law at St. Louis, and was promoted to assistant district claim agent of the Wabash with headquarters at Fort Wayne, Ind. He was advanced to district claim agent with headquarters at Chicago in 1933, being transferred to St. Louis one year later. Mr. Brewer held that position until his new appointment, effective January 15.

OPERATING

C. T. Alford has been appointed trainmaster of the Union Pacific at Denver, Colo.

D. W. Brosnan, superintendent of Central lines of the Southern, with jurisdiction over the Georgia Southern & Florida at Macon, Ga., has been transferred to the Western lines, with jurisdiction over the Alabama Great Southern and the Woodstock & Blocton, with headquarters at Birmingham, Ala., succeeding **H. B. Griffith,** who has been appointed trainmaster of the Southern at Danville, Ky.

W. T. Stewart, conductor of the Chicago, Milwaukee, St. Paul & Pacific, has been promoted to trainmaster at Coburg, Mo., a newly-created position.

F. A. Hess, assistant engineer in the office of the vice-president of the Indiana Harbor Belt and the Chicago River & Indiana, has been promoted to assistant to the general manager, with headquarters as before at Chicago.

Lawton B. Dutton, car repair shop foreman of the High Point, Thomasville & Denton, has been appointed general superintendent with headquarters at High Point, N. C., succeeding **W. B. Varner,** who died on November 3.

James Farrand Pringle, whose appointment as general manager of the Atlantic region of the Canadian National at Moncton, N. B., was announced in the *Railway Age* of January 23, was born on June 3, 1885, at Cornwall, Ont. Mr. Pringle began his service with the Canadian National in November, 1919, as assistant engineer at Montreal and continued in that position until 1923, when he was appointed transportation engineer to the chief of transportation. In 1925 Mr. Pringle became assistant to the chief of transportation and later in the same year he was sent to Toronto as assistant general superintendent of transportation. During the winters of 1929-30 and 1930-31, while still employed by the Canadian National, Mr. Pringle assisted the National Railways of Mexico in modernizing and reorganizing traffic methods on the Mexican lines. In August, 1932, he was appointed general superintendent of transportation of the Canadian National, and in 1936 he became general superintendent, Southern Ontario district. Mr. Pringle was appointed chief of transportation at Montreal in September, 1941, and remained in that position until his recent appointment as general manager at Moncton.

James Farrand Pringle

C. E. Alexander, superintendent of the Buffalo division of the Pennsylvania, has

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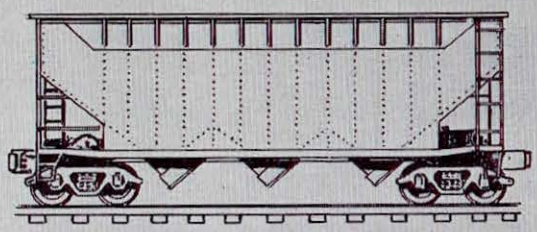
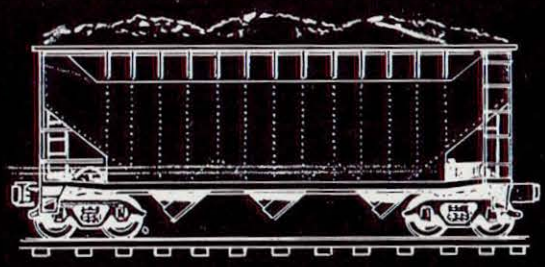
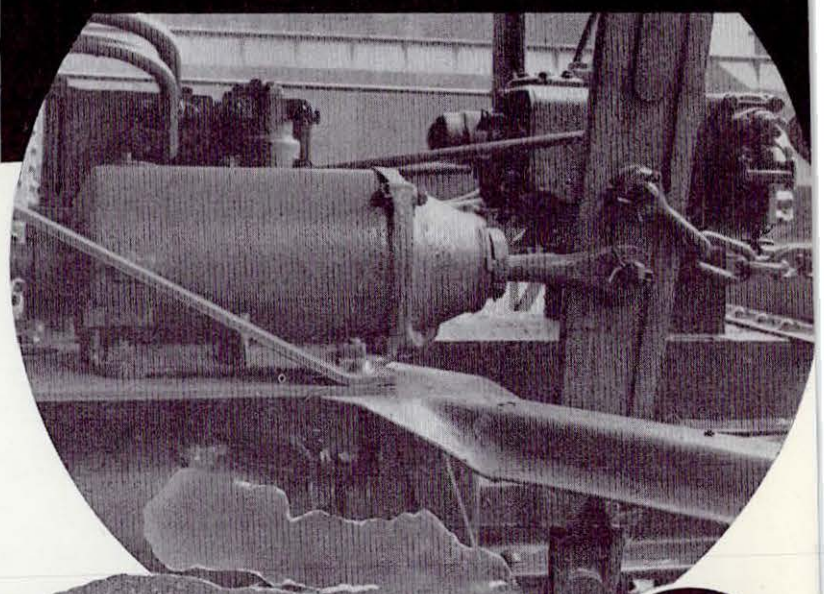
EMPTY *and* LOAD

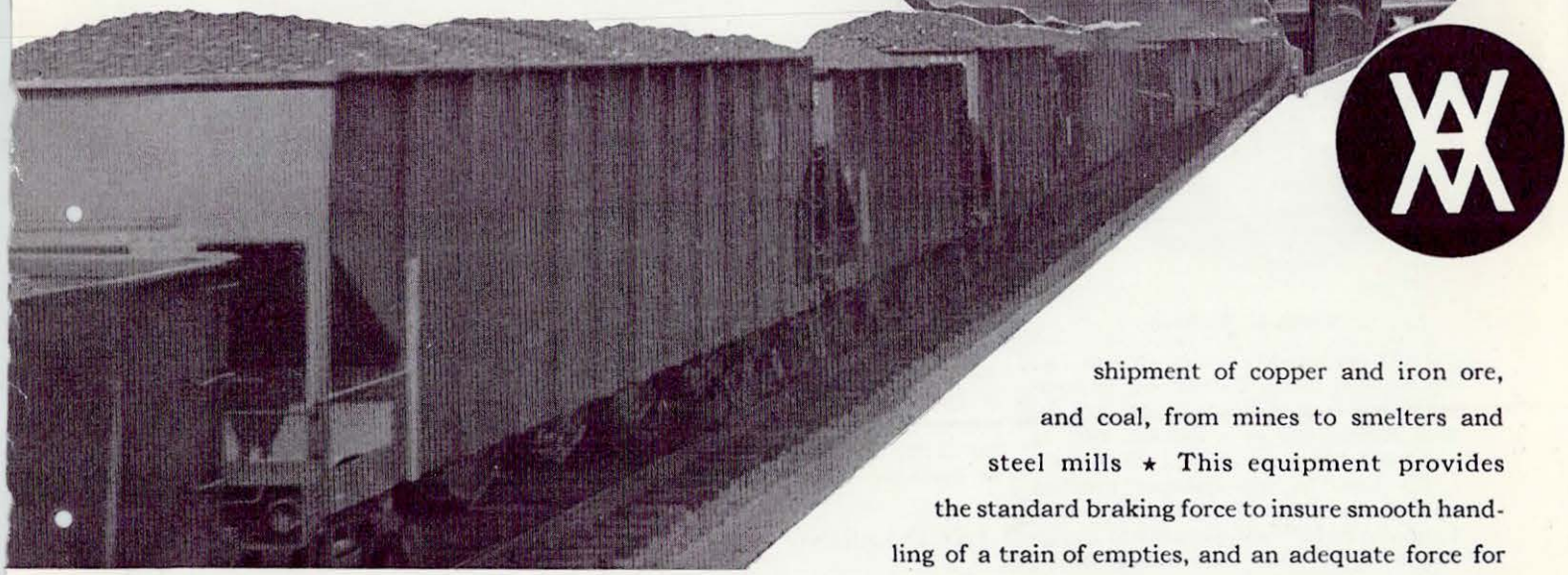




BRAKES



Help Keep RAW MATERIALS . . . . *Rolling*



TRANSPORTATION plays a vital role in the production of strategic raw materials as in every other phase of war activity Hauling facilities for ore and coal are being taxed to their limit, and railroads are performing a gigantic task efficiently ★ On many properties, on thousands of cars, the Westinghouse Empty and Load Brake is helping to safeguard and expedite volume shipment of copper and iron ore, and coal, from mines to smelters and steel mills ★ This equipment provides the standard braking force to insure smooth handling of a train of empties, and an adequate force for loaded trains, with all the precise and positive control advantages of the AB Equipment ★ Railroads using cars having a high gross to tare ratio equipped with our Empty and Load Brake have increased transportation efficiency. Fewer trains carry the same tonnage, at faster speeds safely. For them this equipment has been a paying investment — a definite help toward meeting the present-day demand for increased tonnage production.

WESTINGHOUSE AIR BRAKE CO.

WILMERDING, PENNSYLVANIA

been transferred to Columbus, Ohio, succeeding **N. M. Lawrence,** whose transfer to Buffalo, N. Y., was reported in the *Railway Age* of January 23.

F. W. Bellinger, mechanical and electrical superintendent of the Butte, Anaconda & Pacific, has also been appointed general superintendent with headquarters as before at Anaconda, Mont. He succeeds **R. E. Brooks,** whose promotion to general manager was reported in the *Railway Age* of January 16.

T. B. Ollis, acting superintendent of transportation of the Southern Pacific Lines in Texas and Louisiana, has been promoted to superintendent of transportation, with headquarters as before at Houston, Tex. **G. M. Cage,** acting assistant superintendent of transportation, has been promoted to assistant superintendent of transportation with headquarters at Houston.

TRAFFIC

Frank E. Wallace, whose promotion to general freight agent of the Illinois Central with headquarters at New Orleans, La., was reported in the *Railway Age* of January 9, was born at Warsaw, Ind., and entered railroad service in October, 1909, as a stenographer in the Chicago offices of the I. C. Later he was appointed traveling agent at Carbondale, Ill., and at Waterloo, Iowa, and in 1925 was promoted to foreign freight agent with headquarters at St. Louis, Mo. In 1929 Mr. Wallace was transferred to New Orleans, La., and in 1936 he was advanced to district freight agent, which position he held up until his promotion on January 1.

Frank E. Wallace

Charles H. Campbell, commercial agent of the Illinois Central at Peoria, Ill., has been promoted to general traffic agent, with headquarters at Louisville, Ky. He succeeds **Benjamin T. Breckenridge,** who retired on January 17, after 49 years' service. **William F. Bruce,** commercial agent, with headquarters at Tulsa, Okla., has been transferred to Peoria, relieving Mr. Campbell.

Mr. Campbell entered railroad service in 1911 as a clerk of the Baltimore & Ohio at Cincinnati, Ohio. He served in the armed forces during World War I, and in 1921 he became passenger agent of the Illinois Central at Cincinnati. In 1924 he was advanced to traveling freight and passenger agent with headquarters at Louisville, and in 1932 became freight agent at St. Louis, Mo. Mr. Campbell was promoted to commercial agent with headquarters at Minneapolis, Minn., in 1934, and was transferred to Peoria in July, 1942, holding that position until his new appointment, effective January 17.

Charles H. Campbell

Mr. Breckenridge entered railroad service in 1894 as a clerk of the Peoria, Decatur & Evansville (now a part of the Illinois Central) at Evansville, Ind. In 1900 he was appointed traveling freight agent of the I. C., with headquarters at Mattoon, Ill., and from 1909 to 1917 he was commercial agent at Indianapolis and Evansville. On October 10, 1917, Mr. Breckenridge was promoted to assistant general freight agent with headquarters at Louisville, and in 1935 he was advanced to the position he held at the time of his retirement.

J. M. Burke, traveling freight agent of the New York Central, with headquarters at Dayton, Ohio, has been promoted to general agent at Indianapolis, Ind., replacing **C. H. Witt,** who died at Indianapolis on December 14.

ENGINEERING & SIGNALING

R. T. Scholes, assistant to the chief engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, resigned on January 2.

M. H. Brown, superintendent maintenance of way and structures of the Butte, Anaconda & Pacific, has been promoted to chief engineer, with headquarters as before at Anaconda, Mont.

J. L. Starkie, assistant engineer of the Gulf, Colorado & Santa Fe at Galveston, Tex., has been promoted to office engineer, with the same headquarters. He relieves **G. L. Marick,** assigned to other duties at his own request.

M. D. Clark, engineer of maintenance of way and structures of the Durham & Southern at Charlotte, N. C., has been appointed superintendent in charge of transportation, roadway and mechanical departments, with headquarters at Durham, N. C., succeeding **T. B. Smith,** deceased. The position of engineer maintenance of way and structures has been abolished.

Gustave A. Haggander, assistant chief engineer of the Lines East of the Missouri River of the Chicago, Burlington & Quincy, has been promoted to assistant chief engineer of the Burlington Lines (including the Chicago, Burlington & Quincy, the Colorado & Southern, the Ft. Worth & Denver City, and the Wichita Valley), with headquarters as before at Chicago. **Elzear J. Brown,** assistant division superintendent of the C. B. & Q., at Galesburg, Ill., has been promoted to the newly created position of engineer of track of the Burlington Lines, with headquarters at Chicago. **George W. Gallier,** assistant engineer of the C. B. & Q., at Chicago, has been advanced to assistant chief engineer of the Lines East of the Missouri River, with the same headquarters, succeeding Mr. Haggander. **Charles W. Breed,** office engineer, has been advanced to the newly created position of engineer of standards, with headquarters as before at Chicago.

Gustave A. Haggander

Mr. Haggander was born at Sioux City, Iowa, on January 30, 1885, and graduated from the Armour Institute of Technology, Chicago. He entered railway service in 1905 as a draftsman in the office of the bridge engineer of the Burlington, later serving as a concrete inspector and a designer. On June 10, 1910, he was promoted to office engineer and two years later he was advanced to assistant bridge engineer of the Lines East of the Missouri River, with headquarters at Chicago. Mr. Haggander was promoted to bridge engineer of the Burlington system in 1916 with headquarters as before at Chicago, and in December, 1938, his jurisdiction was extended to include the Colorado & Southern and Ft. Worth & Denver City. On May 16, 1939, Mr. Haggander was promoted to assistant chief engineer of Lines East of the Missouri River of the Chicago, Burlington & Quincy, which position he held until his recent promotion, effective February 1.

Mr. Brown was born at St. Joseph, Mo., on December 1, 1900, and attended the St.

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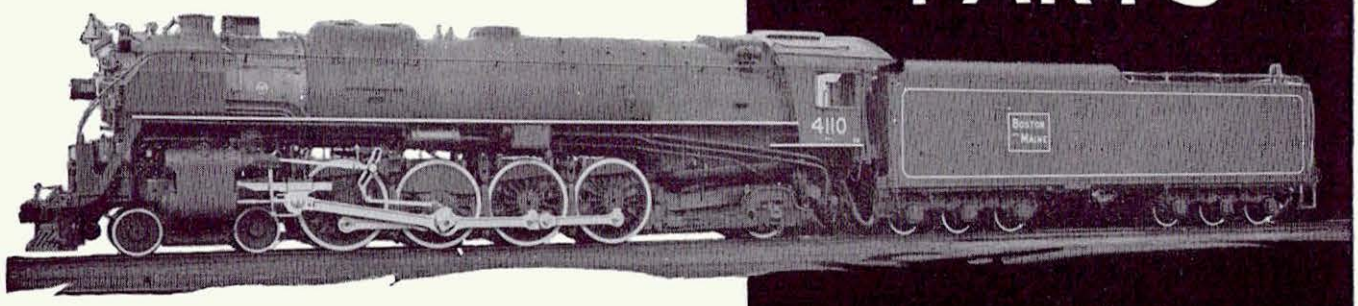
Keep 'Em Rolling

HSGI Wear Resisting PARTS



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Joseph Commercial college and St. Patrick Commercial Academy. He entered railway service on May 26, 1919, as a clerk in the general yardmaster's office on the Burlington at Chicago, and was later transferred to the superintendent's office. On June 1, 1920, he was appointed an assistant roadmaster, later returning to a clerical position at Chicago. The following year he was appointed an assistant extra gang foreman and in November, 1921, he was promoted to section foreman. During the next four years Mr. Brown served as section foreman and extra gang foreman at various points in Illinois and Wisconsin. In January, 1925, he was advanced to assistant roadmaster on the Chicago-Aurora division and in September, 1926, he was transferred to Beardstown, Ill. One month later he was promoted to roadmaster, with headquarters at Chicago, and on May 16, 1939, he was promoted to district engineer maintenance of way, with headquarters at

Elzear J. Brown

Galesburg. Mr. Brown was advanced to assistant superintendent of the Galesburg-Beardstown division in January, 1942, the position he held until his recent promotion.

J. L. Cox, assistant engineer in the office of the engineer, maintenance of way—system, of the New York Central, with headquarters at New York, has been promoted to division engineer, with headquarters at Erie, Pa., succeeding **S. C. Upson,** who has been appointed special engineer at Erie. **George Auer, Jr.,** assistant engineer of track of the New York Central, Lines East of Buffalo, with headquarters at New York, has been promoted to assistant engineer in the office of the engineer, maintenance of way—system, to succeed Mr. Cox. **Francis A. Haley,** supervisor of track on the Pennsylvania division, with headquarters at Corning, N. Y., has been promoted to assistant engineer of track at New York, to succeed Mr. Auer.

MECHANICAL

George E. McCoy, assistant general superintendent of car equipment, Central region, of the Canadian National at Toronto, Ont., has been appointed assistant chief of car equipment, with headquarters at Montreal, Que. Born on January 8, 1886, at Moncton, N. B., Mr. McCoy entered service in 1900 as mechanical draftsman's apprentice of the Intercolonial (now Canadian National), serving in that capacity until 1905, when he became draftsman. In 1914, he was appointed assistant chief

George E. McCoy

draftsman of the Canadian Government (now Canadian National), becoming assistant master car builder in 1916. He became master car builder of the Eastern lines of the Canadian National in 1918, holding this position until 1923, when he was appointed superintendent of car equipment of the Atlantic region, being advanced to general superintendent of car equipment of the Atlantic region in 1928, with headquarters at Moncton. In 1932, Mr. McCoy was appointed assistant general superintendent of car equipment of the Central region at Toronto, remaining in that capacity until his recent appointment.

H. M. Waters, engineer, Macon division, of the Central of Georgia, has been appointed road foreman of engines, with headquarters at Macon, Ga., succeeding **C. R. Johnson,** who has resigned.

SPECIAL

Dr. Charles G. Farnum has been appointed chief surgeon of the Illinois Terminal at Peoria, Ill.

George W. Yates, M. B. E., assistant deputy minister and secretary of the department of transportation of Canada, has, at his own request, been granted a leave of absence.

J. W. Carter has been appointed chairman of the Florida Railroad Commission for a two-year term, with headquarters at Tallahassee, Fla., succeeding **W. B. Douglass,** who remains as a commissioner.

H. A. Wood, who, since 1923, has served in the industrial, traffic, and research and development departments of the Canadian National, and **W. H. M. Johnston,** special representative of the industrial department at New York, have been appointed commissioners of development in the development and natural resources branch, with headquarters at Montreal, Que., and New York, respectively. This branch of the Canadian National provides information required by industrial or commercial organizations contemplating the establishment of new plants or expansion of present facilities in Canada.

OBITUARY

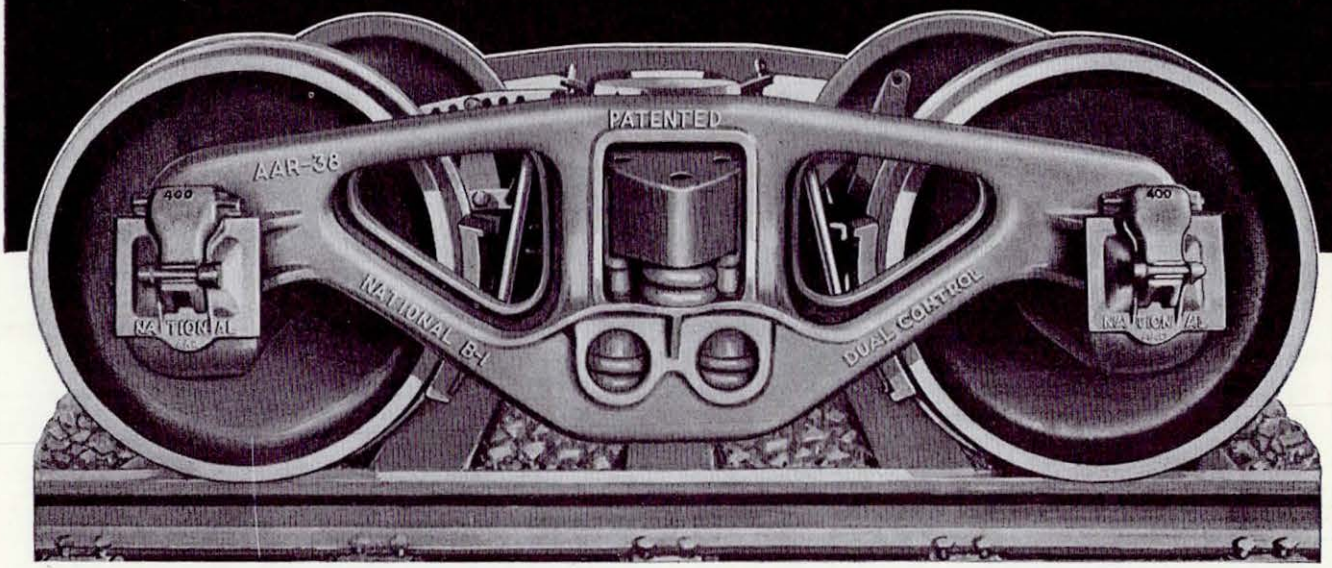
Roger H. Johnston, division engineer of the Chicago, Burlington & Quincy at St. Joseph, Mo., died of pneumonia in that city on January 14.

Wilbur L. Wheeler, assistant general storekeeper of the Chicago & North Western, died at Chicago on January 19. He was born in 1884 and entered railroad service in June, 1900, as a clerk of the North Western at Chicago. Mr. Wheeler worked in various capacities until October 17, 1925, when he was promoted to the position he held at the time of his death.

Joseph P. McDonough, freight traffic manager of the Gulf, Mobile & Ohio, with headquarters at Mobile, Ala., died on December 12, in that city, after a brief illness. He entered railroad service in 1898 with the Mobile & Ohio (now part of the G. M. & O.) at East St. Louis, Ill., and prior to World War I served at St. Louis, and Kansas City, Mo., and briefly as general agent, with headquarters at Atlanta, Ga. During the war he was connected with the National Carbon Company, Cleveland, and prior to returning to the M. & O., in 1934, served with the Lehigh Valley and the Munson Steamship Line. At the time the M. & O., and the Gulf, Mobile & Northern merged to form the G. M. & O., Mr. McDonough was foreign freight agent, with headquarters at St. Louis, and shortly after the beginning of the present war he was promoted to the position he held at the time of his death.

W. C. Harvey, who retired on December 1, 1939, as valuation engineer of the Chicago Great Western, with headquarters at Chicago, died of a stroke at his home in Chicago on January 26 after a long illness. Mr. Harvey was born at Waverly, Ill., on November 14, 1870, and graduated from the University of Illinois in 1892. After teaching and working on a number of engineering projects, he entered railway service in 1895 as a draftsman on the Illinois Central, later being promoted to instrumentman. A short time later he went with the Chicago Terminal Transfer (now the Baltimore & Ohio Chicago Terminal), as a bridge draftsman and assistant engineer and in 1901 he became chief draftsman on the Denver & Rio Grande Western at Salt Lake City, Utah. In 1902, he went with the Chicago & North Western as a draftsman and in 1905 he went with the Chicago Great Western as principal assistant engineer at St. Paul, Minn. Mr. Harvey was promoted to division engineer at Red Wing, Minn., in 1908, and in 1909 he returned to the general office as an assistant engineer, to handle the large improvement program following the reorganization of the property. In 1916, he was appointed valuation engineer, the position he held until his retirement.

NATIONAL B-1 TRUCK WITH DUAL CONTROL



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4 inch O. D. boiler tubes; steel pipe of all sizes, Valves; Fittings; Industrial plants; mills; railroads; trackage; etc.

WRITE, WIRE OR PHONE

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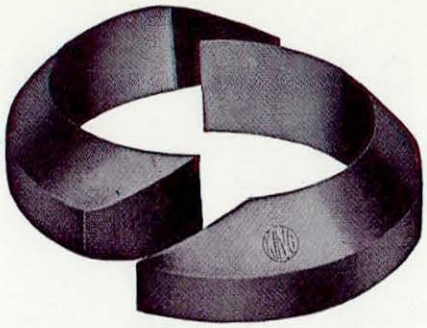
108 N. 2d St. Kansas City, Kans.
We buy and sell. Get our quotations.

REPRESENTATION

Well established supply man, with 22 years experience in mechanical, maintenance, electrical and signaling departments, with wide acquaintance among purchasing agents, desires to handle an account for well established manufacturer in Chicago territory. Address Box 597, RAILWAY AGE, 30 Church St., New York, New York.



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PACKING RINGS

THE U. S. METALLIC PACKING CO.

PHILADELPHIA PENNSYLVANIA

Representative in Canada:
Joseph Robb & Company, Limited, Montreal.

Pittsburgh Spring & Steel Co.

1417 Farmers Bank Building, Pittsburgh, Pa.

Makers of Elliptic and Spiral **SPRINGS** of Every Description

Carbon, Vanadium, Silico-Manganese Steels
Licensed manufacturers under patents for "Coil-Elliptic" groupings

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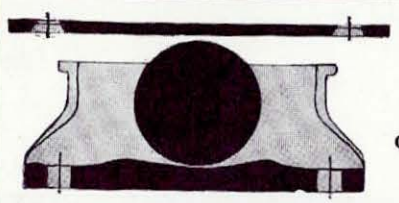

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Manufactured by
A. Stucki Co.
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Canadian Representatives
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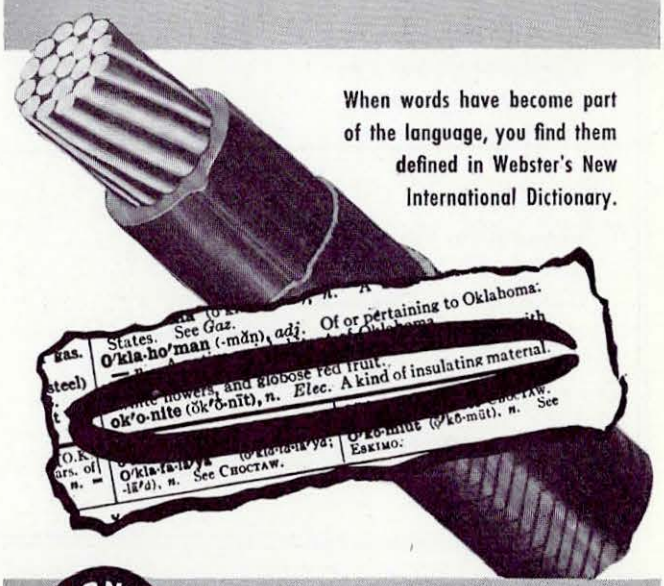
VAPOR-STEAM-ELECTRIC
CAR HEATING SPECIALTIES
COLD CAR HEATING & LIGHTING CO.
NEW YORK

KERITE
Out of the experienced past, into the exacting present, KERITE wires and cables, through three-quarters of a century of successful service, continue as the standard by which engineering judgment measures insulating value.
THE KERITE INSULATED WIRE & CABLE COMPANY INC
NEW YORK CHICAGO SAN FRANCISCO

"OKONITE"



When words have become part of the language, you find them defined in Webster's New International Dictionary.

O'kla-ho'man (-mǎn), adj. Of or pertaining to Oklahoma.
ok'o-nite (ŏk'ō-nīt), n. Elec. A kind of insulating material.
O'kla-ho'ma (-hō'mȧ), n. See CHOCTAW.
See Gaz.
See ESKIMO.

OKONITE **THE OKONITE COMPANY**

Passaic, New Jersey · Offices in Principal Cities

"Manufacturers of insulated wires and cables since 1878"

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RYERSON Certified STEELS

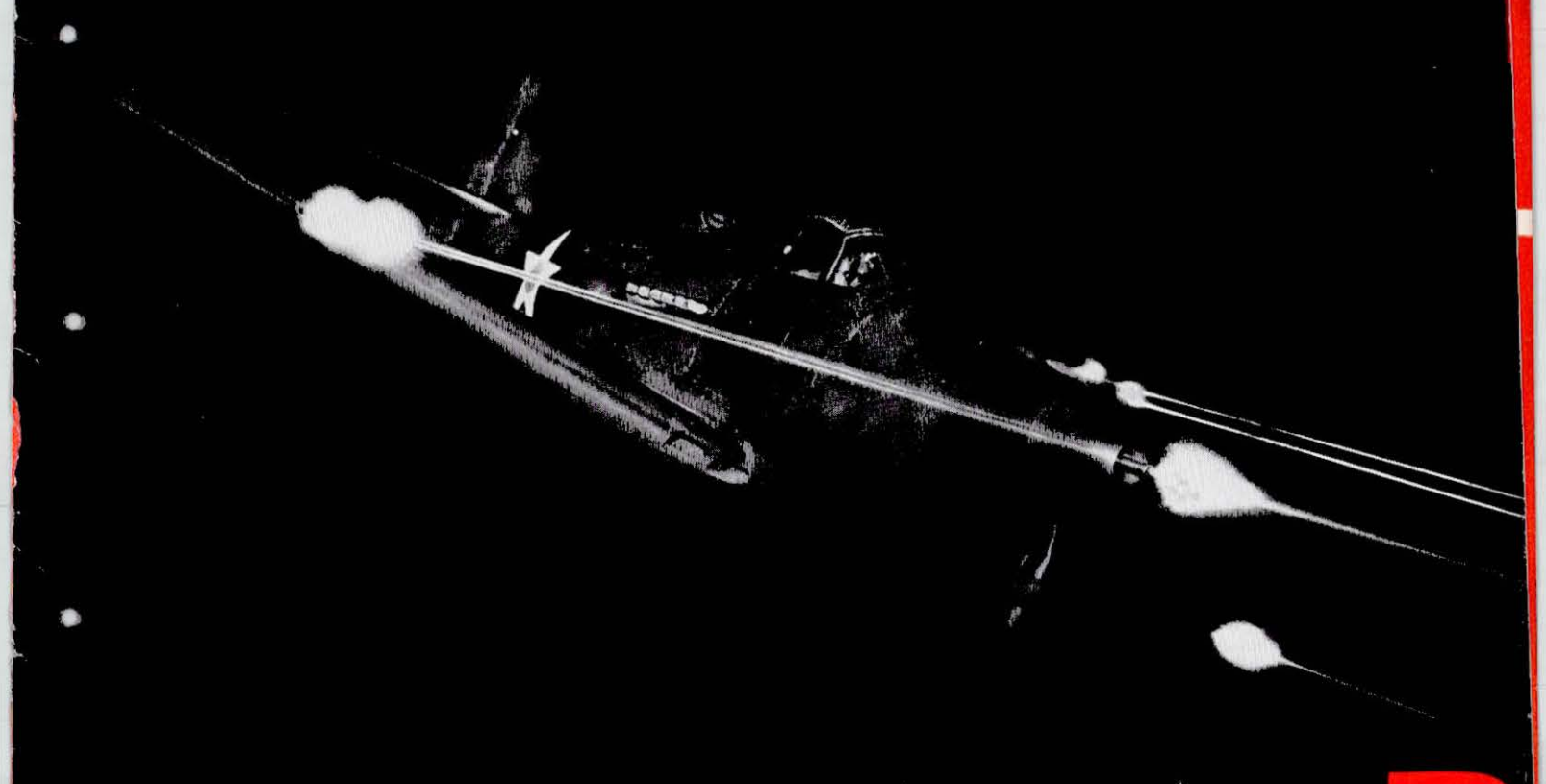
RYERSON CERTIFIED STEELS

● You get uniform, high quality *Certified* Steel when you draw on the large and complete stocks of the nearby Ryerson plant. Prompt shipment assured. Write for Stock List. Joseph T. Ryerson & Son, Inc., Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

Principal Products Include:

Structurals, Lewis Iron, Plates, Sheets, Strip, Alloys, Cold Finished Steel, Tool Steel, Stainless, Mechanical Tubing, Boiler Tubes, Welding Rod, Babbit Solder, Reinforcing Nails, Rivets, etc.

TWO-FOLD PRODUCTION FOR VICTORY...

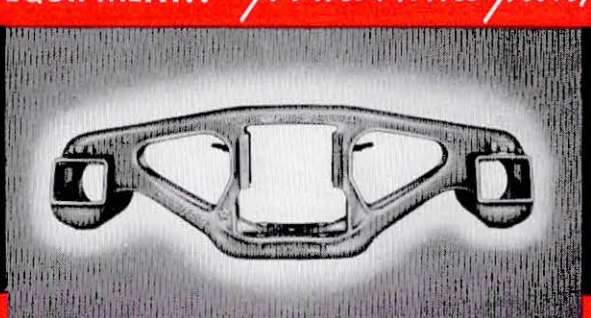


"For the Fighting Front"

ARMY P-39 AIRACOBRA

- In the months ahead the Symington-Gould foundries have two goals:
  1. Peak production of armor and other steel castings which go into the weapons of our fighting forces.
  2. Continued production of the railway equipment which American railroads need for efficient wartime transportation.

RAILWAY EQUIPMENT.. "For the Home Front"



- Truck side frames and bolsters are among the many railway equipment products which Symington-Gould continues to manufacture.

★

OVER 40 YEARS OF RESEARCH AND DEVELOPMENT OF RAILWAY EQUIPMENT

THE SYMINGTON-GOULD CORPORATION

Works: ROCHESTER & DEPEW, NEW YORK

New York • Chicago • St. Louis • Baltimore • Boston • San Francisco • In Canada: ADANAC SUPPLIES, LTD., Montreal, Que.

What YOU Can Do About Scrap

EXECUTIVE:

Appoint a scrap director, armed with authority to act. Promote the use of posters, pay-envelope stuffers, and collection goals to enlist employees in the scrap campaign.

Make each foreman responsible for preventing waste in his department.

Enforce monthly rechecks in every department to find scrap material previously overlooked.

Report regularly on your plant's collection of scrap to the Industrial Salvage Committee set up by WPB in your community.

•

SUPERINTENDENT, FOREMAN, OR TECHNICIAN:

Survey all plant equipment, particularly idle, broken, or obsolete machines, and determine what might be salvaged, and what should be scrapped. Remember, any machine is more valuable repaired than scrapped.

Classify all scrap metal by its alloy content.

Provide separate containers, clearly marked for each class of scrap material.

Speed the return of scrap to steel mills through existing channels.

•

WORKMAN:

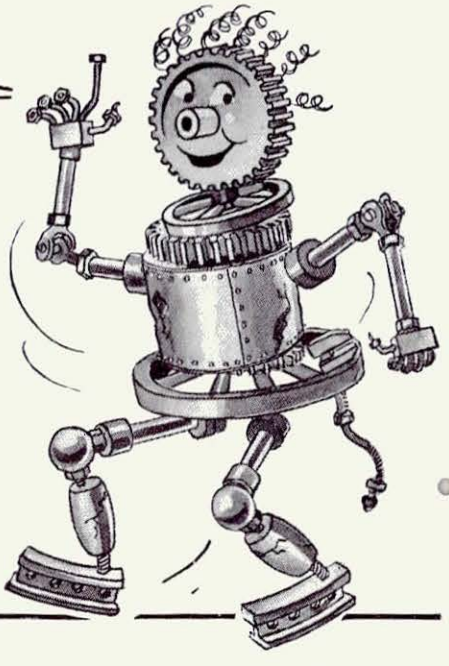
Comb plant and yards for dormant scrap and unusable and abandoned equipment.

Report promptly the equipment which is out of use. If equipment has not been used for some time, and you see no use for it in the near future, transfer it to where it can be used, or scrap it.

Salvage usable parts from equipment marked for scrapping.

SCRAPPY SAYS:

Yes sir, we've got to have scrap. It takes scrap to make steel. And it takes lots of steel to win a war. DO YOUR PART!



ELECTRO METALLURGICAL COMPANY

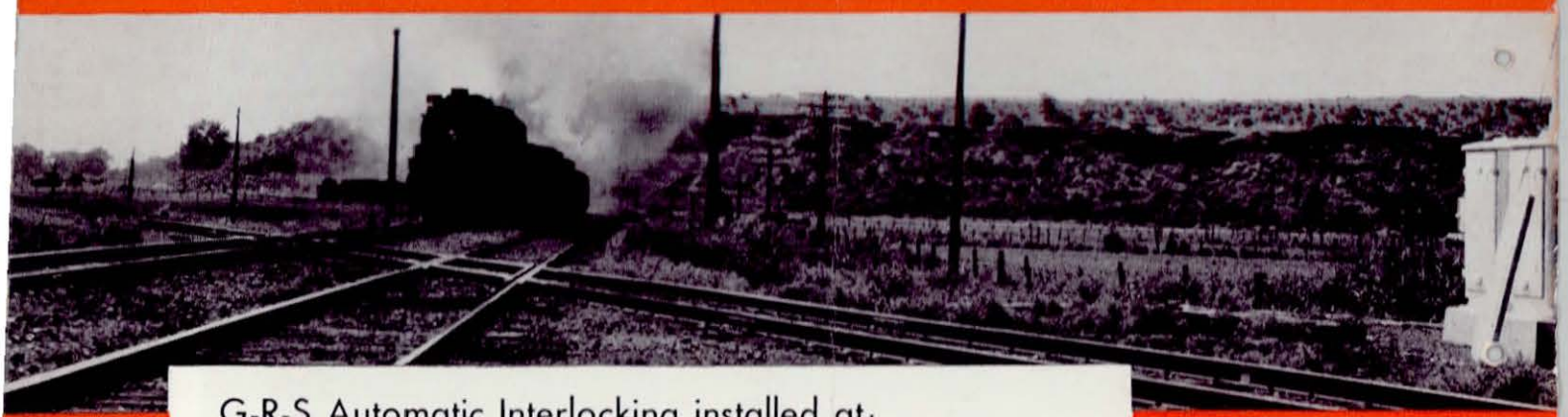
Unit of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York, N. Y.

Electromet
Trade-Mark
Ferro-Alloys & Metals

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 114, No. 6.

ELIMINATE THOUSANDS OF TRAIN STOPS WITH G-R-S AUTOMATIC INTERLOCKING



G-R-S Automatic Interlocking installed at;

- Crossings
- Turnouts
- and Junction Points,

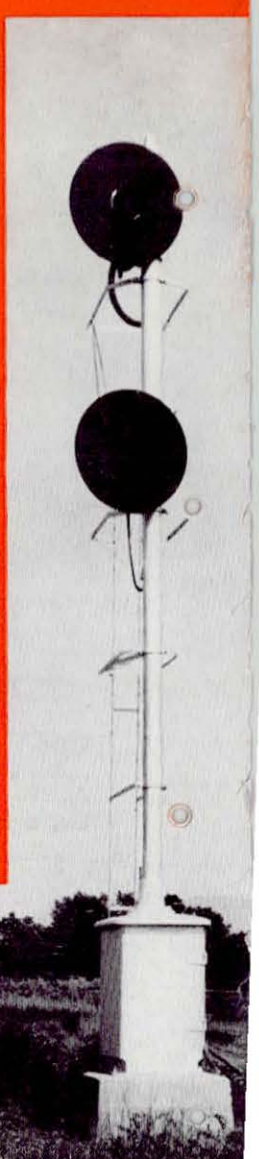
will expedite traffic by;

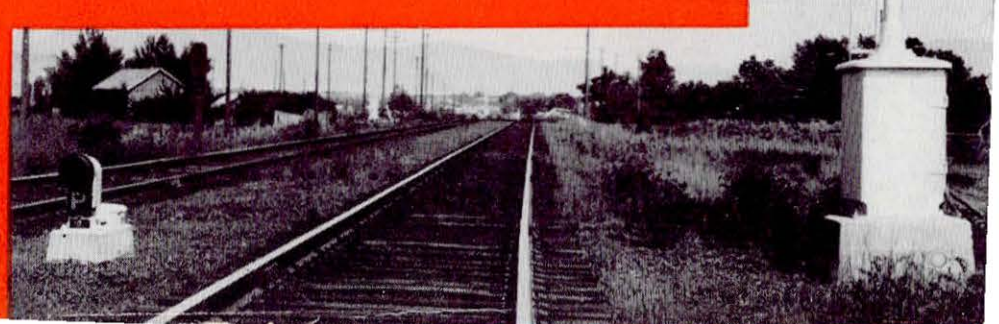
- ELIMINATING THOUSANDS OF UNNECESSARY TRAIN STOPS ANNUALLY.

Additional features of Automatic Interlocking are;

- Material requirements are small in comparison with the advantages realized and,
- in many instances, man-hours of operation and maintenance may be lessened.
- Too, speedy installations may be facilitated with factory assembled and wired cases.

For engineering service and further information, consult our nearest District Office.





GENERAL

RAILWAY SIGNAL COMPANY

New York San Francisco ROCHESTER, N. Y. Chicago St. Louis A-1586